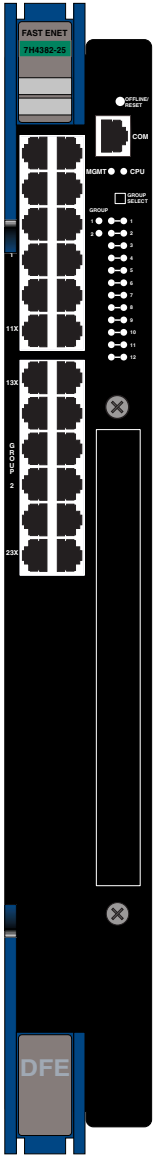
Matrix DFE-Platinum Series Module (7H4382-25) Installation Guide



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Safety Information
Class 1 Laser Transceivers

The single mode interface modules use Class 1 laser transceivers.
Read the following safety information before installing or operating these modules.

The Class 1 laser transceivers use an optical feedback loop to maintain Class 1 operation limits. This control loop eliminates the need for maintenance checks or adjustments. The output is factory set, and does not allow any user adjustment. Class 1 Laser transceivers comply with the following safety standards:

- 21 CFR 1040.10 and 1040.11 U.S. Department of Health and Human Services (FDA).
- IEC Publication 825 (International Electrotechnical Commission).
- CENELEC EN 60825 (European Committee for Electrotechnical Standardization).

When operating within their performance limitations, laser transceiver output meets the Class 1 accessible emission limit of all three standards. Class 1 levels of laser radiation are not considered hazardous.

When the connector is in place, all laser radiation remains within the fiber. The maximum amount of radiant power exiting the fiber (under normal conditions) is -12.6 dBm or 55 x 10^{-6} watts.

Removing the optical connector from the transceiver allows laser radiation to emit directly from the optical port. The maximum radiance from the optical port (under worst case conditions) is 0.8 W cm^{-2} or 8 x 10^{3} W m^{2} sr-1.

Do not use optical instruments to view the laser output. The use of optical instruments to view laser output increases eye hazard. When viewing the output optical port, power must be removed from the network adapter.

Declaration of Conformity

Application of Council Directive(s):	**89/336/EEC** **73/23/EEC**
Manufacturer's Name:	**Enterasys Networks, Inc.**
Manufacturer's Address:	**50 Minuteman Road** **Andover, MA 01810** **USA**
European Representative Address:	**Enterasys Networks, Ltd.** **Nexus House, Newbury Business Park** **London Road, Newbury** **Berkshire RG14 2PZ, England**
Conformance to Directive(s)/Product Standards:	**EC Directive 89/336/EEC** **EN 55022** **EN 55024** **EC Directive 73/23/EEC** **EN 60950** **EN 60825**
Equipment Type/Environment:	**Networking Equipment, for use in a Commercial or Light Industrial Environment.**

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Contents

About This Guide

Who Should Use This Guide xiii
How to Use This Guide xiv
Related Documents xiv
Conventions Used in This Guide xv

Chapter 1: Introduction

Overview of DFE-Platinum Series Capabilities 1-1
The DFE-Platinum Module and Interface Option 1-2
Connectivity 1-5
Management 1-5
Switch Configuration Using WebView 1-5
Switch Configuration Using CLI Commands 1-5
Standards Compatibility 1-5
LANVIEW Diagnostic LEDs 1-6
Getting Help 1-6

Chapter 2: Network Requirements

Link Aggregation 2-1
Module Placement in a Matrix E7 Chassis 2-2
FTM Bridge Function and Optional Interface Module 2-2
10BASE-T Network 2-2
100BASE-TX Network 2-3
1000BASE-SX/LX Network 2-3
1000BASE-T Network 2-3

Chapter 3: Installation

Unpacking the DFE-Platinum Module 3-2
Installing Optional Ethernet Interface Module 3-2
Removing the Coverplate 3-3
Installing the 7G-6MGBIC 3-3
Installing an Optional Mini-GBIC 3-5
Preparation 3-5
Installation 3-6
Removing the Mini-GBIC 3-7
Backplane Connections and Installation Rules 3-8
FTM1 and FTM2 Connectivity 3-8
Module Placement and Rules 3-9
Installing Module into SmartSwitch 6000, Matrix E7 or Matrix N7 Chassis 3-12
Preparation 3-12
Installation 3-13

Installing Module into Matrix N3 Chassis 3-15
Connecting to the Network 3-16
Connecting UTP Cables to 7H4382-25 3-16
Connecting Fiber-Optic Cables to Mini-GBICs (applies to 7G-6MGBIC) 3-20
Connecting to COM Port for Local Management 3-23
What Is Needed 3-23
Connecting to an IBM PC or Compatible Device 3-24
Connecting to a VT Series Terminal 3-25
Connecting to a Modem 3-27
Adapter Wiring and Signal Assignments 3-29
Completing the Installation 3-30
Completing the Installation of a New System 3-30
Completing the Installation of a DFE-Platinum Module in an Existing System 3-32

Chapter 4: Troubleshooting

Using LANVIEW 4-1
Troubleshooting Checklist 4-4
Overview of DFE-Platinum Module Shutdown Procedure (Special Instructions) 4-6
Recommended Shutdown Procedure Using OFFLINE/RESET Switch 4-7
Last Resort Shutdown Procedure Using OFFLINE/RESET Switch 4-8

Appendix A: Specifications

DFE-Platinum Module Specifications A-1
Ethernet Interface Module Specifications A-2
Mini-GBIC Input/Output Specifications A-3
Gigabit Ethernet Specifications A-4
MGBIC-LC01/MGBIC-MT01 Specifications (1000BASE-SX) A-4
MGBIC-LC03 Specifications (1000BASE-SX) A-4
MGBIC-LC09 Specifications (1000BASE-LX) A-5
MGBIC-08 Specifications (1000BASE-ELX) A-6
MGBIC-02 Specifications (1000BASE-T) A-6
COM Port Pinout Assignments A-7
Regulatory Compliance A-7

Appendix B: Mode Switch Bank Settings and Optional Installations

Required Tools B-1
Setting the Mode Switches B-1
Memory Locations and Replacement Procedures B-3
DIMM Replacement Procedure B-4
DRAM SIMM Replacement Procedure B-7

Index

Figures

1-1 7H4382-25 DFE-Platinum Module 1-3
1-2 Optional 7G-6MGBIC and 7G-6MGBIC-A Ethernet Interface Modules 1-4
3-1 Removing the Coverplate 3-3
3-2 Installing the Ethernet Interface Module 3-4
3-3 Mini-GBIC with MT-RJ Connector 3-6
3-4 Mini-GBIC with LC Connector 3-7
3-5 Examples, Module Placement in Matrix E7 Chassis 3-10
3-6 Installing Module into an SS6000, Matrix E7 or N7 Chassis (Matrix E7 shown) 3-14
3-7 Installing Module into Matrix N3 Chassis 3-15
3-8 Connecting a Twisted Pair Segment to the 7H4382-25 3-17
3-9 Crossover 4-Wire Cable RJ45 Pinouts, Connections Between Hub Devices 3-18
3-10 Straight-Through 4-Wire Cable RJ45 Pinouts, Connections Between Switches and End-User Devices 3-18
3-11 Eight-Wire Crossover Cable RJ45 Pinouts, Connections Between Hub Devices 3-19
3-12 Eight-Wire Straight-Through Cable RJ45 Pinouts, Connections Between Switches and End-User Devices 3-19
3-13 Cable Connection to MT-RJ Fiber-Optic Connectors 3-21
3-14 Cable Connection to LC Fiber-Optic Connectors 3-22
3-15 Connecting an IBM PC or Compatible 3-25
3-16 Connecting a VT Series Terminal 3-26
3-17 Connecting to a Modem 3-28
3-18 Matrix DFE Startup Screen Example (N7 Chassis) 3-32
4-1 LANVIEW LEDs 4-2
4-3 OFFLINE/RESET Switch 4-7
B-1 Mode Switch Location on 7H4382-25 ..... B-2
B-2 DIMM and DRAM SIMM Locations B-3
B-3 Ethernet Interface Removal and DIMM Connector Location B-4
B-4 Removing the Existing DIMM from 7H4382-25 ..... B-5
B-5 Installing the DIMM on 7H4382-25 ..... B-6
B-6 Removing the Existing DRAM SIMM B-7
B-7 Installing the DRAM SIMM B-8

Tables

1-1 Optional Ethernet Interface Module, Compliance, and Physical Connection 1-5
3-2 Contents of DFE-Platinum Module Carton 3-2
4-3 LANVIEW LEDs 4-3
4-4 Troubleshooting Checklist 4-4
A-1 7H4382-25 Specifications A-1
A-2 7G-6MGBIC and 7G-6MGBIC-A Port/Environmental Specifications A-2
A-3 Mini-GBIC Input/Output Port Specifications A-3
A-4 MGBIC-LC01 / MGBIC-MT01 Optical Specifications A-4
A-5 MGBIC-LC01 / MGBIC-MT01 Operating Range A-4
A-6 MGBIC-LC03 Optical Specifications A-4
A-7 MGBIC-LC03 Operating Range A-5
A-8 MGBIC-LC09 Optical Specifications A-5
A-9 MGBIC-LC09 Operating Range A-5
A-10 MGBIC-08 Optical Specifications A-6
A-11 MGBIC-08 Operating Range A-6
A-12 MGBIC-02 / Specifications A-6
A-13 COM Port Pin Assignments A-7
A-14 Compliance Standards A-7

About This Guide

This guide provides an overview, installation and troubleshooting instructions, and specifications for the Enterasys Matrix™ DFE-Platinum 7H4382-25 (Distributed Forwarding Engine) module, the 7G-6MGBIC (an optional Ethernet interface module), and the Mini-GBIC modules.

For information about the CLI (Command Line Interface) set of commands used to configure and manage the DFE-Platinum module, refer to the Enterasys Networks™ *<emphasis>Matrix DFE-Platinum Series Configuration Guide*.

Note: In this guide, the following terms are used:

- *DFE-Platinum module*, unless otherwise noted, refers to the 7H4382-25.
- Ethernet interface module (or simply *interface module*) refers to an optional uplink card installed on the main logic board and accessible through the option slot of the 7H4382-25.
- *Mini-GBIC* (Mini-Gigabit Interface Card) refers to a smaller optional interface card that plugs into the 7G-6MGBIC interface module.
- *7G-6MGBIC* refers to both the 7G-6MGBIC and 7G-6MGBIC-A interface modules unless otherwise noted.

Important Notice

Depending on the firmware version used in the DFE-Platinum module, some features described in this document may not be supported. Refer to the Release Notes shipped with the DFE-Platinum module to determine which features are supported.

Who Should Use This Guide

Electrical Hazard: Only qualified personnel should perform installation procedures.

Riesgo Electrico: Solamente personal calificado debe realizar procedimientos de instalacion.

Elektrischer Gefahrenhinweis: Installationen sollten nur durch ausgebildetes und qualifiziertes Personal vorgenommen werden.

This guide is intended for a network administrator responsible for installing and setting up the DFE-Platinum module.

How to Use This Guide

This preface provides an overview of this guide and the DFE-Platinum Series manual set, a brief summary of each chapter, and defines the conventions used in this document. To locate information about various subjects in this guide, refer to the following table:

For...	Refer to...
An overview of the DFE-Platinum module and instructions to obtain technical support from Enterasys Networks	Chapter 1, **Introduction**
Network requirements that must be met before installing the DFE-Platinum module	Chapter 2, **Network Requirements**
Instructions to install the DFE-Platinum module hardware, optional Ethernet interface module, and Mini-GBIC interface cards	Chapter 3, **Installation**
Troubleshooting installation problems and diagnosing network/operational problems using the LANVIEW LEDs	Chapter 4, **Troubleshooting**
Specifications, environmental requirements, and physical properties of the DFE-Platinum module, the optional 7G-6MGBIC Ethernet interface module, and Mini-GBIC interface cards	Appendix A, **Specifications**
Instructions to set the mode switches when necessary and remove and replace DRAM SIMM and DIMM memory	Appendix B, **Mode Switch Bank Settings and Optional Installations**

Related Documents

The manuals listed below can be obtained from the World Wide Web in Adobe Acrobat Portable Document Format (PDF) at the following site:

http://www.enterasys.com/support/manuals

- <*emphasis*>*Matrix DFE-Platinum Series Configuration Guide* provides information on how to use the Command Line Interface to set up and manage the DFE-Platinum modules.
- *Cabling Guide* provides information on dB loss and cable specifications.

  Unlike the <*emphasis*>*Matrix DFE-Platinum Series Configuration Guide*, the *Cabling Guide* is not listed alphabetically on the web site. Instead, it is listed under the *Overview Guides* link.

Conventions Used in This Guide

The following conventions are used in this guide:

Note: Calls the reader's attention to any item of information that may be of special importance.

Caution: Contains information essential to avoid damage to the equipment.

Cautela: Contiene información esencial para prevenir dañar el equipo.

Achtung: Verweißt auf wichtige Informationen zum Schutz gegen Beschädigungen.

Electrical Hazard: Warns against an action that could result in personal injury or death due to an electrical hazard.

Riesgo Electrico: Advierte contra una acción que pudiera resultar en lesión corporal o la muerte debido a un riesgo eléctrico.

Elektrischer Gefahrenhinweis: Warnung vor sämtlichen Handlungen, die zu Verletzung von Personen oder Todesfällen – hervorgerufen durch elektrische Spannung – führen können!

Warning: Warns against an action that could result in personal injury or death.

Advertencia: Advierte contra una acción que pudiera resultar en lesión corporal o la muerte.

Warnhinweis: Warnung vor Handlungen, die zu Verletzung von Personen oder gar Todesfällen führen können!

Lowercase X: Indicates the general use of an alphanumeric character (e.g., 6x1xx, the x's indicate a combination of numbers or letters).

1

Introduction

This chapter provides an overview of the DFE-Platinum module capabilities, and introduces the 7H4382-25 DFE-Platinum module.

Important Notice

Depending on the firmware version used in the DFE-Platinum module, some features described in this document may not be supported. Refer to the Release Notes shipped with the DFE-Platinum module to determine which features are supported.

Overview of DFE-Platinum Series Capabilities

The series of DFE-Platinum modules provide you with a large number of capabilities, including the following:

- Capability of supporting high speed Ethernet gigabit traffic to desktop devices
- Better security and service-delivery capabilities at the edge of the network
- A highly scalable and fault tolerant switch infrastructure
- Support new applications, including those that have special requirements, such as:
  - VoIP
  - Video
  - New business improvement applications for Customer Relationship Management (CRM) and Enterprise Resource Planning (ERP) (also known as Enterprise Resource Management).

CRM refers to having software, hardware, and networking in place that improves a supplier's dealings with customers. For example, a supplier could check on the shipping status (if goods were shipped and their current location). A typical use for CRM software would be for customer-interfacing functions such as help desk, order entry, technical information, and sales automation.

ERP refers to the next generation of software for manufacturing business systems and Manufacturing Resource Planning (MRP). ERP software makes heavy use of telecommunications. With ERP type software you can link back-office computer systems such as: manufacturing, financial, human resources, sales force automation, supply chain management, data warehousing, document management, and after sales service and support. These systems usually operate on a network of PCs, replacing older main-frame based systems.

The DFE-Platinum Module and Interface Option

This section provides an overview of the 7H4382-25 DFE-Platinum module (Figure 1-1) and the 7G-6MGBIC and 7G-6MGBIC-A Ethernet interface modules (shown in Figure 1-2). For information about features of the DFE-Platinum modules and how to configure them, refer to the *Matrix DFE-Platinum Series Configuration Guide*.

7H4382-25

The 7H4382-25 DFE-Platinum module has 24, 10BASE-T/100BASE-TX compliant ports, via fixed front panel RJ45 connectors and a slot for the optional 7G-6MGBIC or 7G-6MGBIC-A interface module, which can support up to 6 Gigabit ports. The 7H4382-25 can be installed in a Matrix E7, Matrix N7, or Matrix N3 chassis. The 7H4382-25 can also be installed in an SS6000 (SmartSwitch 6000) chassis.

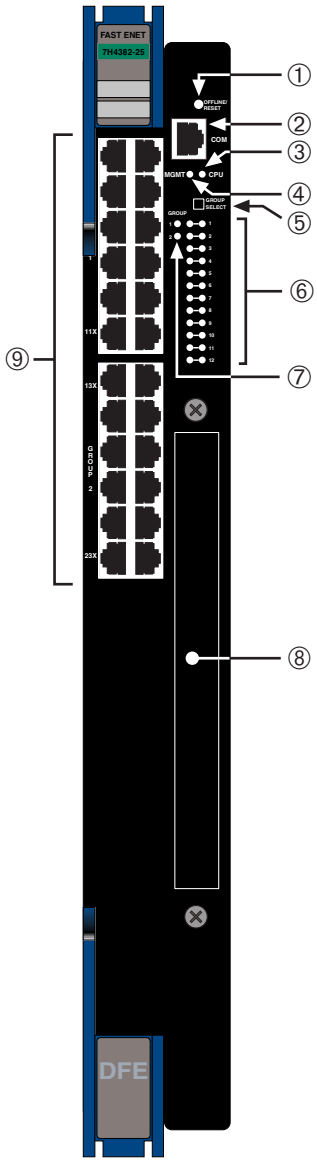
The 7H4382-25 DFE-Platinum module also supports bridging between the Frame Transfer Matrix FTM1 and FTM2 backplanes in a Matrix E7 chassis. When mixing 6x1xxx, 6x2xxx, 6x3xxx, and 7x4xxx series modules in a Matrix E7 chassis, certain hardware installation configuration rules must be followed to ensure proper operation. These rules are covered in Chapter 3.

Each of the fixed front panel ports can operate in either half-duplex or full-duplex mode of operation. The duplex mode can be determined by either auto-negotiation or manual configuration.

The DFE-Platinum module ports can be configured to control traffic by limiting the rate of traffic accepted into the module and prioritizing traffic to expedite the flow of higher priority traffic through the module.

The DFE-Platinum module receives power and backplane connectivity when it is inserted into the SS6000, Matrix E7, Matrix N7, or Matrix N3 chassis.

Figure 1-1 7H4382-25 DFE-Platinum Module

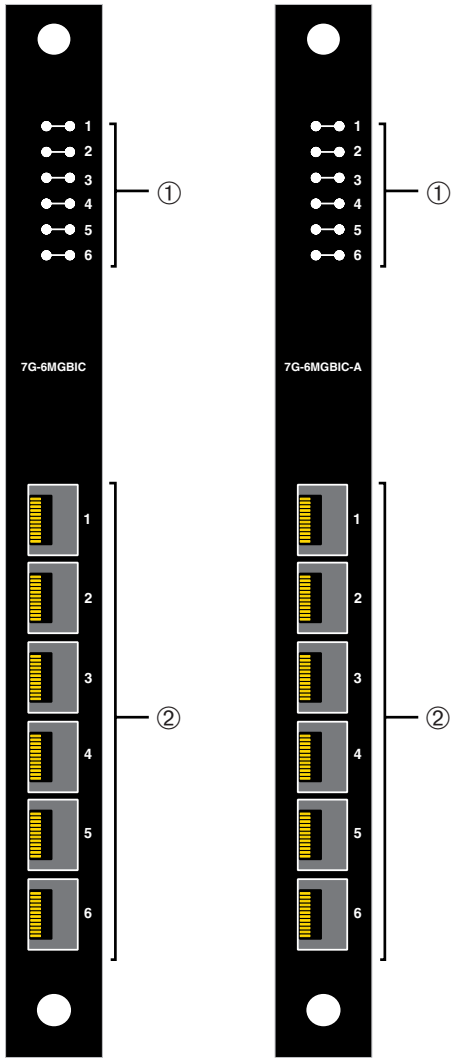


1 OFFLINE/RESET switch
2 RJ45 COM (Console Port)
3 CPU LED
4 MGMT LED
5 GROUP SELECT button
6 GROUP LEDs
7 GROUP status LEDs
8 Ethernet Interface Module option slot
9 Ports (1-24), 10/100 Mbps, via RJ45s

7G-6MGBIC Gigabit Ethernet Interface Option

The 7H4382-25 option slot provides access to an installed interface module such as the 7G-6MGBIC and 7G-6MGBIC-A. Figure 1-2 shows the Ethernet interface modules available at the time of this printing. Table 1-1 indicates the standards the module complies with and the type of physical connections.

Figure 1-2 Optional 7G-6MGBIC and 7G-6MGBIC-A Ethernet Interface Modules



1 Port status LEDs

2 1-Gigabit port slots for Mini-GBIC uplinks

Table 1-1 Optional Ethernet Interface Module, Compliance, and Physical Connection

Ethernet Interface Module	Compliant to	Physical Connection
7G-6MGBIC or 7G-6MGBIC-A	1-Gigabit Ethernet	Six port slots that support optional hot-swappable Mini-GBICs.

Connectivity

Depending on how the 7H4382-25 is configured, it can support up to:

- 24, 10BASE-T/100BASE-TX switched ports connected through 24 fixed front panel connectors, or
- 24, 10BASE-T/100BASE-TX switched ports and an optional Gigabit interface module.

Management

Management of the module can be either in-band or out-of-band. In-band remote management is possible using Telnet, Enterasys Networks' NetSight® management application, or WebView™ application. Out-of-band management is provided through the RJ45 COM (Communication) port on the front panel using a VT100 terminal or a VT100 terminal emulator.

Switch Configuration Using WebView

Enterasys Networks' HTTP-based Web management application (WebView) is an intuitive web tool for simple management tasks.

Switch Configuration Using CLI Commands

The CLI commands enable you to perform more complete switch configuration management tasks.

For CLI command set information and how to configure the module, refer to the *Matrix DFE-Platinum Series Configuration Guide*.

Standards Compatibility

The DFE-Platinum modules are fully compliant with the IEEE 802.3-2002, 802.3ae-2002, 802.1D-1998, and 802.1Q-1998 standards. The DFE-Platinum module provides IEEE 802.1D-1998 Spanning Tree Algorithm (STA) support to enhance the overall reliability of the network and protect against "loop" conditions.

LANVIEW Diagnostic LEDs

LANVIEW diagnostic LEDs serve as an important troubleshooting aid by providing an easy way to observe the status of individual ports and overall network operations.

Getting Help

For additional support related to the modules or this document, contact Enterasys Networks using one of the following methods:

World Wide Web	http://www.enterasys.com/support
Phone	603-332-9400 1-800-872-8440 (toll-free in U.S. and Canada) For the Enterasys Networks Support toll-free number in your country: **http://www.enterasys.com/support/gtac-all.html**
Internet mail	**support@enterasys.com** To expedite your message, please type **[eth]** in the subject line.
To send comments or suggestions concerning this document to the Technical Writing Department: **techwriting@enterasys.com** To expedite your message, please type **[techwriting]** in the subject line, and include the document Part Number in the email message.	

Before contacting Enterasys Networks for technical support, have the following information ready:

- Your Enterasys Networks service contract number
- A description of the failure
- A description of any action(s) already taken to resolve the problem (e.g., changing mode switches, rebooting the unit, etc.)
- The serial and revision numbers of all involved Enterasys Networks products in the network
- A description of your network environment (layout, cable type, etc.)
- Network load and frame size at the time of trouble (if known)
- The device history (i.e., have you returned the device before, is this a recurring problem, etc.)
- Any previous Return Material Authorization (RMA) numbers

2

Network Requirements

Before installing the module, review the requirements and specifications referred to in this chapter concerning the following:

- "Link Aggregation" on page 2-1
- "Module Placement in a Matrix E7 Chassis" on page 2-2
- "FTM Bridge Function and Optional Interface Module" on page 2-2
- "10BASE-T Network" on page 2-2
- "100BASE-TX Network" on page 2-3
- "1000BASE-SX/LX Network" on page 2-3
- "1000BASE-T Network" on page 2-3

The network installation must meet the requirements to ensure satisfactory performance of this equipment. Failure to do so will produce poor network performance.

Note: The *Matrix DFE-Platinum Series Configuration Guide* and the ***Cabling Guide*** referred to in the following sections can be found on the Enterasys Networks World Wide Web site: http://www.enterasys.com/

Refer to "Related Documents" in **About This Guide**.

Link Aggregation

Link Aggregation is a method of grouping multiple physical ports on a network device into one logical link according to the IEEE 802.3ad-2002 standard. Because Link Aggregation is standards based, it allows for automatic configuration with manual overrides (if applicable), and can operate on 10 Mbps, 100 Mbps, or 1000 Mbps Ethernet full duplex ports. Thus the network administrator can combine a group of five 100 Mbps ports into a logical link (trunk) that functions as a single 500 Mbps port. As long as the DFE modules agree on which ports are in the trunk, there are no problems with looping, and the Spanning Tree can treat this trunk as a single port.

In normal usage (and typical implementations) there is no need to enable/disable ports for Link Aggregation. The default values will result in the maximum number of aggregations possible. If the switch is placed in a configuration with its peers not running the protocol, no aggregations will be formed and the DFE modules will function normally (that is, Spanning Tree will block redundant paths).

For details about the commands involved with configuring the Link Aggregation function, refer to the *Matrix DFE-Platinum Series Configuration Guide*.

Module Placement in a Matrix E7 Chassis

If you want to mix 6x1xxx, 6x2xxx, 6x3xxx, and 7x4xxx series modules in the same Matrix E7 chassis, it is necessary to have a DFE module FTM1-to-FTM2 bridging module installed in the chassis and also follow the module placement rules described in the section, "Backplane Connections and Installation Rules," on page 3-8 to successfully bridge data traffic to some or all modules in the chassis.

FTM Bridge Function and Optional Interface Module

Unlike the 7H4382-49 and 7H4383-49 DFE-Platinum bridge modules (not described in this guide), the 7H4382-25 can support both the FTM bridging function and an optional interface module at the same time without restrictions.

10BASE-T Network

When connecting a 10BASE-T segment to any of the module fixed front panel ports of the 7H4382-25, ensure that the network meets the Ethernet network requirements of the IEEE 802.3-2002 standard for 10BASE-T. Refer to the ***Cabling Guide*** for details.

Note: If a port is to operate at 100 Mbps, Category 5 cabling must be used. Category 3 cabling does not meet 100 Mbps specifications. For 10 Mbps operation only, Category 3 or Category 5 cabling can be used. Refer to "100BASE-TX Network" on page 2-3 for information about 100BASE-TX networks and cabling.

100BASE-TX Network

Fixed front panel ports of the 7H4382-25 provide a connection that supports Category 5 UTP cabling. The device at the other end of the twisted pair segment must meet IEEE 802.3-2002 100BASE-TX Fast Ethernet network requirements for the devices to operate at 100 Mbps. Refer to the ***Cabling Guide*** for details.

Note: The fixed ports of the module support Category 5 UTP cabling with an impedance between 85 and 111 ohms for 100 Mbps operation.

The module is capable of operating at either 10 or 100 Mbps. The module automatically senses the speed of the other device and adjusts its speed accordingly.

1000BASE-SX/LX Network

Optional Mini-GBICs provide a Gigabit Ethernet connection to the optional 7G-6MGBIC interface module to provide fiber-optic connections operating at 1000 Mbps (1 Gbps). The device at the other end of the fiber-optic connection must meet IEEE 802.3-2002 Gigabit Ethernet requirements for the devices to operate at Gigabit speed. Refer to Appendix A for further details on Mini-GBIC specifications.

1000BASE-T Network

Optional Mini-GBICs can also provide a copper-wire connection that supports Category 5 UTP cabling. The device at the other end of the twisted pair segment must meet IEEE 802.3-2002 1000BASE-T Fast Ethernet network requirements for the devices to operate at 1000 Mbps. Refer to Appendix A for further details on Mini-GBIC specifications.

3

Installation

Electrical Hazard: Only qualified personnel should perform installation procedures.

Riesgo Electrico: Solamente personal calificado debe realizar procedimientos de instalacion.

Elektrischer Gefahrenhinweis: Installationen sollten nur durch ausgebildetes und qualifiziertes Personal vorgenommen werden.

Important Notice

Read the Release Notes shipped with the DFE-Platinum module to check for any exceptions to the supported features and operation documented in this guide.

This chapter provides the instructions to install the 7H4382-25 DFE-Platinum module and optional interface module 7G-6MGBIC.

A Phillips screwdriver is required to install an optional interface module into the 7H4382-25. Follow the order of the sections listed below to correctly install the module.

- "Unpacking the DFE-Platinum Module" on page 3-2
- "Installing Optional Ethernet Interface Module" on page 3-2
- "Installing an Optional Mini-GBIC" on page 3-5
- "Backplane Connections and Installation Rules" on page 3-8
- "Installing Module into SmartSwitch 6000, Matrix E7 or Matrix N7 Chassis" on page 3-12
- "Installing Module into Matrix N3 Chassis" on page 3-15
- "Connecting to the Network" on page 3-16
- "Connecting to COM Port for Local Management" on page 3-23
- "Completing the Installation" on page 3-30

Unpacking the DFE-Platinum Module

Unpack the DFE-Platinum module as follows:

1. Open the box and remove the packing material protecting the DFE-Platinum module.
2. Verify the contents of the carton as listed in Table 3-2.

Table 3-2 Contents of DFE-Platinum Module Carton

Item	Quantity
DFE-Platinum module (7H4382-25)	1
Installation Guide	1
Customer Release Notes	1

3. Remove the tape seal on the non-conductive bag to remove the DFE-Platinum module.
4. Perform a visual inspection of the DFE-Platinum module for any signs of physical damage. Contact Enterasys Networks if there are any signs of damage. Refer to "Getting Help" on page 1-6 for details.

Installing Optional Ethernet Interface Module

Note: Install any optional equipment before proceeding to the section, "Backplane Connections and Installation Rules," on page 3-8 for an explanation of the rules to install different series modules in a Matrix E7 chassis.

At the time of this printing, only the 7G-6MGBIC is available for the 7H4382-25. Refer to your release notes for the latest available Ethernet interface modules. The 7G-6MGBIC provides six Gigabit port slots for optional Mini-GBIC connections.

Installing a 7G-6MGBIC involves

- removing the coverplate from the DFE-Platinum module (7H4382-25),
- attaching the 7G-6MGBIC to the DFE-Platinum module, and
- installing the Mini-GBICs.

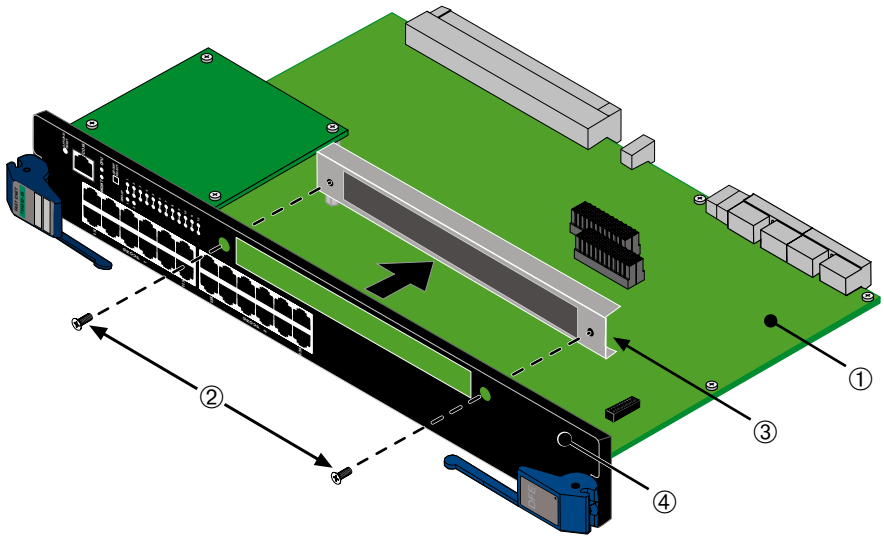
Caution: An antistatic wrist strap is required to perform the following procedures to minimize ESD damage to the devices involved.

Removing the Coverplate

Refer to Figure 3-1 and proceed as follows:

1. Attach the antistatic wrist strap (refer to the instructions on the antistatic wrist strap package).
2. Place the DFE-Platinum module on an antistatic pad on a sturdy flat surface.

Figure 3-1 Removing the Coverplate



1 DFE-Platinum module
2 Coverplate screws (2)
3 Coverplate
4 DFE-Platinum module front panel

3. Remove the two screws fastening the coverplate to the DFE-Platinum module front panel. Save the two screws for installing the optional interface module.

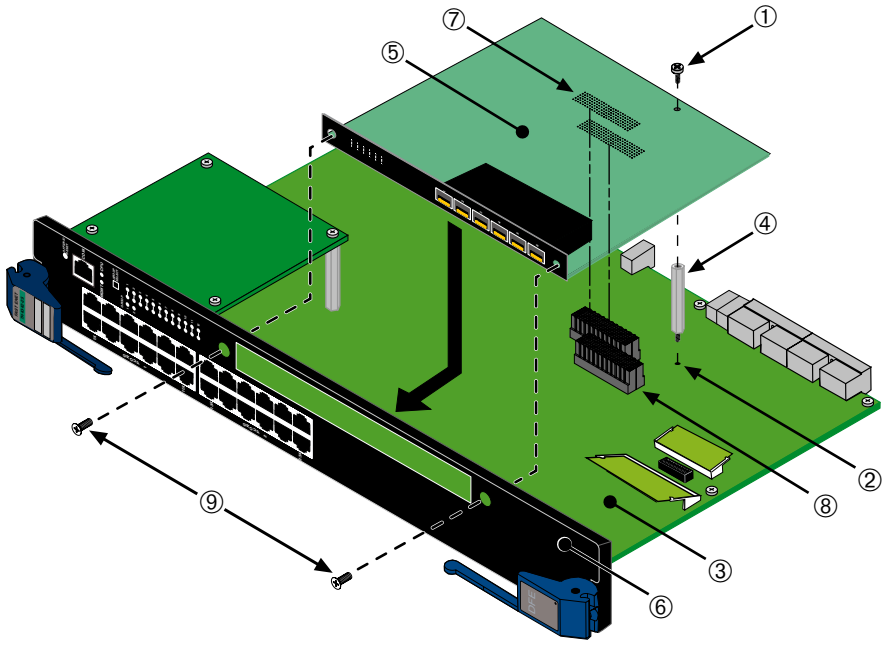
Installing the 7G-6MGBIC

Refer to Figure 3-2 and proceed as follows:

1. Remove and save the screw from the screw hole in the main board.
2. Locate the standoff shipped with the interface module and screw it into the same screw hole in the main board.
3. Position the interface module so its front panel is under the edge of the DFE-Platinum module front panel.

4. Carefully align the two interface module connectors with the main board connectors. Then press straight down over the two interface module connectors, applying pressure until they are properly seated.

Figure 3-2 Installing the Ethernet Interface Module



1 Screw (1)	**4** Standoff	**7** Interface module connectors
2 Screw hole	**5** Optional interface module	**8** Main board connectors
3 Main board	**6** DFE-Platinum module front panel	**9** Coverplate screws (2)

5. Use the two saved coverplate screws to fasten the interface module to the DFE-Platinum module front panel. Do not tighten the two coverplate screws at this time.
6. Use the screw removed from the main board and fasten the interface module to the standoff. Tighten the screw.
7. Tighten the two coverplate screws.
8. This completes the interface module installation. To install Mini-GBICs into the interface module, proceed to "Installing an Optional Mini-GBIC" on page 3-5. Otherwise, proceed to "Backplane Connections and Installation Rules" on page 3-8 to install the module into the chassis.

Installing an Optional Mini-GBIC

This section describes how to install a Mini-GBIC in an optional 7G-6MGBIC.

Warning: Fiber-optic Mini-GBICs use Class 1 lasers. Do not use optical instruments to view the laser output. The use of optical instruments to view laser output increases eye hazard. When viewing the output optical port, power must be removed from the network adapter.

Advertencia: Los Mini-GBICS de fibra optica usan lasers de clase 1. No se debe usar instrumentos opticos para ver la potencia laser. El uso de los instrumentos opticos para ver la potencia laser incrementa el riesgo a los ojos. Cuando vean el puerto de la potencia optica, la corriente debe ser removida del adaptador de la red.

Warnhinweis: Mini-GBICs mit Fiber-Optik Technologie benutzen Laser der Klasse 1. Benutzen sie keinesfalls optische Hilfsmittel, um die Funktion des Lasers zu überprüfen. Solche Hilfsmittel erhöhen die Gefahr von Sehschäden. Wenn sie den optischen Port überprüfen möchten stellen Sie sicher, dass die Komponente von der Spannungsversorgung getrennt ist.

Caution: Carefully follow the instructions in this manual to avoid damaging the Mini-GBIC, 7G-6MGBIC, and DFE module.

The Mini-GBIC, 7G-6MGBIC, and DFE module are sensitive to static discharges. Use an antistatic wrist strap and observe all static precautions during this procedure. Failure to do so could result in damage to the Mini-GBIC, 7G-6MGBIC, and DFE module. Always leave the Mini-GBIC in the antistatic bag or an equivalent antistatic container when not installed.

To prepare and install a Mini-GBIC, proceed as follows:

Preparation

Before installing the Mini-GBIC, proceed as follows:

1. Attach the antistatic wrist strap (refer to the instructions in the antistatic wrist strap package) before removing the Mini-GBIC from the antistatic packaging.
2. Remove the Mini-GBIC from the packaging.
3. If there is a protective dust cover (see **5** in Figure 3-3 or Figure 3-4) on the Mini-GBIC port, do not remove it at this time.

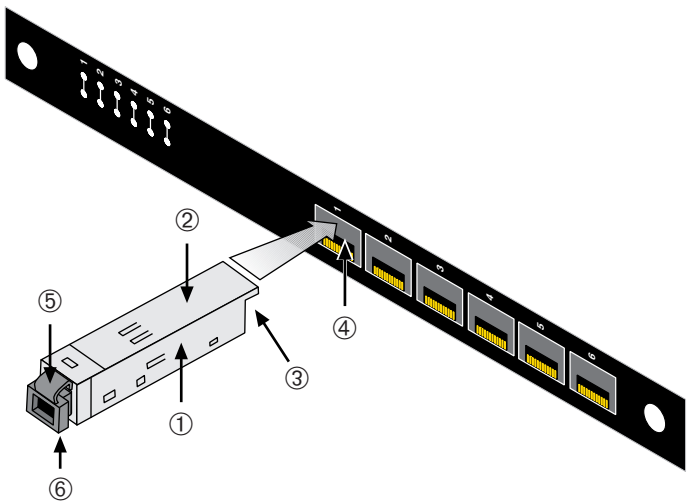
Installation

To install a Mini-GBIC with an MT-RJ connection, refer to Figure 3-3, or for a Mini-GBIC with an LC connection, refer to Figure 3-4, and proceed as follows:

Note: If the Mini-GBIC is one with an RJ45 connector (not shown), the installation procedure is the same as described below. However, the Mini-GBIC has a wire handle to release it.

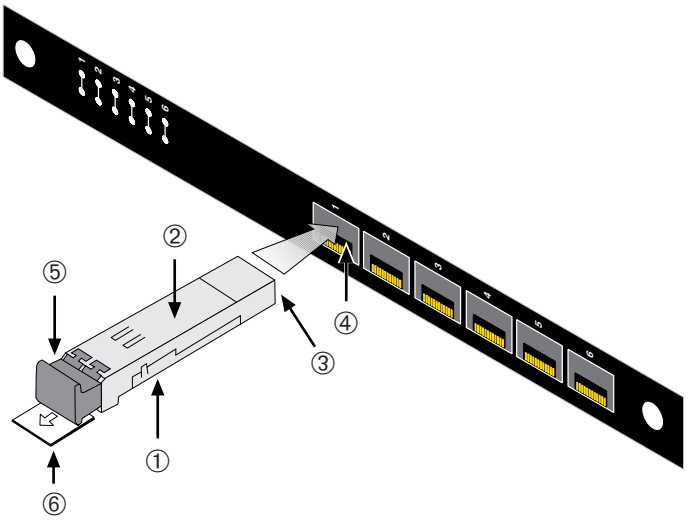
1. Hold the Mini-GBIC with its top side facing up and its 7-pin edge connector facing the port slot.
2. Carefully align the Mini-GBIC with the port slot.
3. Push the Mini-GBIC into the port slot until the Mini-GBIC "clicks" and locks into place.

Figure 3-3 Mini-GBIC with MT-RJ Connector



1	Mini-GBIC (MGBIC-MT01)	**4**	Port slot
2	Mini-GBIC, top side	**5**	Mini-GBIC, protective dust cover
3	7-Pin edge connector (insertion side)	**6**	Release tab

Figure 3-4 Mini-GBIC with LC Connector



1	Mini-GBIC (MGBIC-LC01, MGBIC-LC09, MGBIC-08)	**4**	Port slot
2	Mini-GBIC, top side	**5**	Mini-GBIC, protective dust cover
3	7-Pin edge connector (insertion side)	**6**	Release tab

Removing the Mini-GBIC

Caution: Do NOT remove a Mini-GBIC from a slot without releasing the locking tab located under the front bottom end of the Mini-GBIC. This can damage the Mini-GBIC. This is also true of the RJ45 Mini-GBICs with a wire handle. The handle must be pulled down toward the bottom of the MINI-GBIC to release it.

The Mini-GBIC and its host device are sensitive to static discharges. Use an antistatic wrist strap and observe all static precautions during this procedure. Failure to do so could result in damaging the Mini-GBIC or host device. Always leave the Mini-GBIC in the antistatic bag or an equivalent antistatic container when not installed.

To remove a Mini-GBIC from a port slot, refer back to Figure 3-3 and Figure 3-4, and proceed as follows:

1. Attach the antistatic wrist strap (refer to the instructions in the antistatic wrist strap package) before removing the Mini-GBIC.
2. Remove the cables connected to the Mini-GBIC.

3. Locate the release tab under the front end of the Mini-GBIC. For the type of Mini-GBIC shown in Figure 3-3, push in on the release tab as far as it will go to release the Mini-GBIC from the port slot. For the type of Mini-GBIC shown in Figure 3-4, pull out on the release tab to release the Mini-GBIC from the port slot.

4. Grasp the sides of the Mini-GBIC and pull it straight out of the port slot.

If storing or shipping the Mini-GBIC, reinsert the Mini-GBIC dust cover to protect the end of the fiber-optic strands.

Backplane Connections and Installation Rules

The following sections describe

- the FTM1 and FTM2 backplane connections,
- the hardware configuration rules when installing first (6x1xx), second (6x2xx), and third (6x3xx) generation modules, and DFE-Platinum modules (7xxxxx) into the same Matrix E7 chassis, and
- the installation of the 7H4382-25 into an SS6000 chassis.

FTM1 and FTM2 Connectivity

The Matrix E7 (7C105) chassis has backplanes referred to as FTM1 and FTM2. The 7xxxxx DFE-Platinum modules use FTM2 for high speed communication to each other and operate as one switching unit with a single IP address. The traffic through these modules does not connect to FTM1 except through an FTM bridging module such as the DFE-Platinum module 7H4382-25, 7H4382-49, or 7H4383-49.

The 7H4382-25 has a connection to both FTM1 and FTM2 backplanes, which enables the 7H4382-25 to switch frames between the two backplanes and all modules in the 6C107 chassis. However, the older first (6x1xx), second (6x2xx), and third (6x3xx) generation modules are still managed using their own Local Management and are not subject to management by the DFE-Platinum module management entity.

The Matrix N3 (7C103) and Matrix N7 (7C107) chassis have only FTM2 connections and support only DFE-Platinum modules.

The SS6000 (6C105) chassis has only FTM1 connections and supports the 7H4382-25 as a standalone device in respect to management. Each 7H4382-25 installed in the SS6000 chassis is managed seperately with its own IP address.

Note: The 7H4382-25 is the only DFE-Platinum module that supported in an SS6000 chassis.

Module Placement and Rules

The DFE-Platinum series modules can be installed in an SS6000, Matrix E7, Matrix N3, or Matrix N7 chassis. When installing the modules into one of these chassis, make sure to consider the following placement rules for the appropriate chassis and module mix.

SS6000 Chassis

The SS6000 chassis can support a mix of up to five first (6x1xx), second (6x2xx), and third (6x3xx) generation modules and the DFE-Platinum module 7H4382-25. In this type of installation, the 7H4382-25 has connections to the other modules via FTM1, but is configured and assigned its own IP address using the cli command set described in the *Matrix DFE-Platinum Series Configuration Guide*. Each 7H4382-25 installed in the chassis is managed seperately. The SS6000 chassis Local Management entity will not recognize or display any 7H4382-25 status information via its local management screens. This information is obtained using the cli commands.

Rule: There are no particular rules for installing the 7H4382-25 into a SS6000 chassis.

Matrix N3 Chassis, Module Placement

The Matrix N3 chassis slots 1 through 3 will support only DFE-Platinum modules.

Rule: There are no particular rules for installing DFE-Platinum modules into a Matrix N3 chassis.

Matrix N7 Chassis, Module Placement

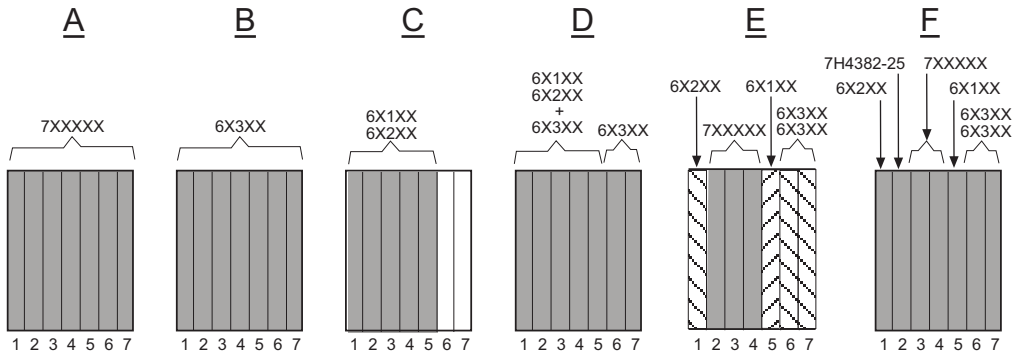
The Matrix N7 chassis slots 1 through 7 will support only DFE-Platinum modules.

Rule: There are no particular rules for installing DFE-Platinum modules into a Matrix N7 chassis.

Matrix E7 Chassis, Module Placement

Depending on the modules being installed in the Matrix E7 chassis and to help ensure proper operation, consider the following examples and rules for module placement in the chassis. Figure 3-5 shows five examples of chassis module placement. These examples are described below along with the applicable module placement rule.

Figure 3-5 Examples, Module Placement in Matrix E7 Chassis



Example 1 (Figure 3-5, A)

Shows the chassis fully populated with DFE-Platinum modules (7xxxxx). These modules communicate with each other via the FTM2 chassis backplane and act as a single switching entity with one IP address. The DFE-Platinum modules are configured using a Command Line Interface set of commands.

Rule: DFE-Platinum modules can be installed in any available chassis slot in the Matrix E7 chassis.

Example 2 (Figure 3-5, B)

Shows the chassis fully populated with third generation modules (6x3xx). These modules can also be installed in any available chassis slot in the Matrix E7 chassis, but operate as individual modules with separate IP addresses. Each module is configured using Local Management.

Rule: The 6x3xx modules can be installed in any available chassis slot in the Matrix E7 chassis.

Example 3 (Figure 3-5, C)

Shows chassis slots 1 through 5 populated with first and second generation modules (6x1xx and 6x2xx). If a 6x1xx or 6x2xx series module is installed in slot 6 or 7, it will operate in standalone mode (no backplane connectivity). Like the 6x3xx modules, the 6x1xx and 6x2xx modules operate as individual modules with separate IP addresses, and each one is configured using Local Management.

Rule: The 6x1xx and 6x2xx modules can communicate with each other when they are installed in chassis slots 1 through 5 in the Matrix E7 chassis. If installed in slot 6 or 7, they operate in standalone mode.

Example 4 (Figure 3-5, D)

Shows chassis slots 1 through 5 populated with a mix of 6x1xx, 6x2xx, and 6x3xx modules and only third generation modules in slots 6 and 7.

In this module arrangement, the 6x3xx module provides a proxy bridge, which enables the 6x1xx and 6x2xx modules to communicate with 6x3xx modules in slot 6 or 7. If more than one 6x3xx module is installed in slots 1 to 5, the module in the lowest numbered slot performs the proxy function for slots 6 and 7. Therefore, if a 6x3xx module is already performing the proxy function, and another 6x3xx module is inserted into a lower numbered slot, connectivity will be temporarily interrupted, as the new board takes over the proxy function. When a 6x3xx module in a lower numbered slot is removed, and there is a 6x3xx module in a higher numbered slot, communication is not interrupted.

For Local Management, plugging the Local Management connection into the 6x3xx modules will allow management connections to all 6x1xx, 6x2xx, and 6x3xx modules. If the Local Management connection is to a 6x1xx or 6x2xx board, only the modules in the first five slots will be recognized by the management client.

Rule: There must be at least one 6x3xx module in slots 1 through 5 to enable communications between the 6x1xx, 6x2xx, and 6x3xx modules.

Example 5 (Figure 3-5, E)

Shows chassis slots 1 and 5 populated with 6x1xx, 6x2xx modules, respectively; slots 2 through 4 with DFE-Platinum modules without a bridging module; and slots 6 and 7 with 6x3xx modules.

In this module arrangement, the 6x1xx and 6x2xx modules in slots 1 and 5 can only communicate with each other, because there is no 6x3xx module in one of the first five slots to serve as the proxy bridge to communicate with the 6x3xx modules in slots 6 and 7. The 7x4xxx DFE-Platinum modules in slots 2, 3, and 4 will operate under one IP address. Since there is no bridging module, the DFE-Platinum modules will not communicate with any other modules in the chassis.

Rule: In this example, there must be at least one 6x3xx series module, and a 7H4382-25 bridging module in slots 1 through 5 to enable communications between all generations of modules in the chassis.

Example 6 (Figure 3-5, F)

The module arrangement in this example is similar to the one shown in Figure 3-5, E and described in Example 5. The only difference is that a 7H4382-25 bridging module is installed in slot 2, enabling all modules to communicate with each other.

Rule: In this example, the 7H4382-25 serves as both the FTM1-to-FTM2 bridge and the five-to-seven slot proxy bridge. The 6x3xx does not serve as a proxy bridge in this configuration because the 7H4382-25 is in a slot with a lower number. You can use the 7H4382-25 as a bridging module depending on the need.

Installing Module into SmartSwitch 6000, Matrix E7 or Matrix N7 Chassis

Caution: Failure to observe static safety precautions could cause damage to the DFE module. Follow static safety handling rules and wear the antistatic wrist strap.

Do not cut the non-conductive bag to remove the module. Sharp objects contacting the board or components can cause damage.

To install a DFE-Platinum module into an SS6000, Matrix E7 or Matrix N7 chassis, proceed directly to "Preparation" on page 3-12 to start the installation process.

Preparation

1. Remove the blank panel covering the slot in which the module will be installed. All other slots must remain covered to ensure proper airflow for cooling. (Save the blank plate in the event you need to remove the module.)
2. Remove the module from the shipping box. (Save the box and packing materials in the event the module needs to be reshipped.)
3. Locate the antistatic wrist strap shipped with the chassis. Attach the antistatic wrist strap to your wrist and plug the cable from the antistatic wrist strap into the ESD grounding receptacle at the upper right corner of the chassis.
4. Remove the module from the plastic bag. (Save the bag in the event the module must be reshipped.) Observe all precautions to prevent damage from Electrostatic Discharge (ESD).
5. Examine the module for damage. If any damage exists, DO NOT install the module. Immediately contact Enterasys Networks. Refer to "Getting Help" on page 1-6.

Installation

To install the module, refer to Figure 3-6 and proceed as follows:

Caution: To prevent damaging the backplane connectors in the following step, take care that the module slides in straight and properly engages the backplane connectors.

Ensure that the top lever lines up with the desired slot number located on the front panel of the chassis. Refer to Figure 3-6.

1. Locate the chassis card guides that line up with the slot number in which the module will be installed. (In this example, slot 1 is being used.) Make sure the module locking levers are in the open position (top and bottom).
2. Align the module card between the upper and lower card guides of the desired slot and slide it into the chassis, taking care that the module slides in straight. See Caution below.

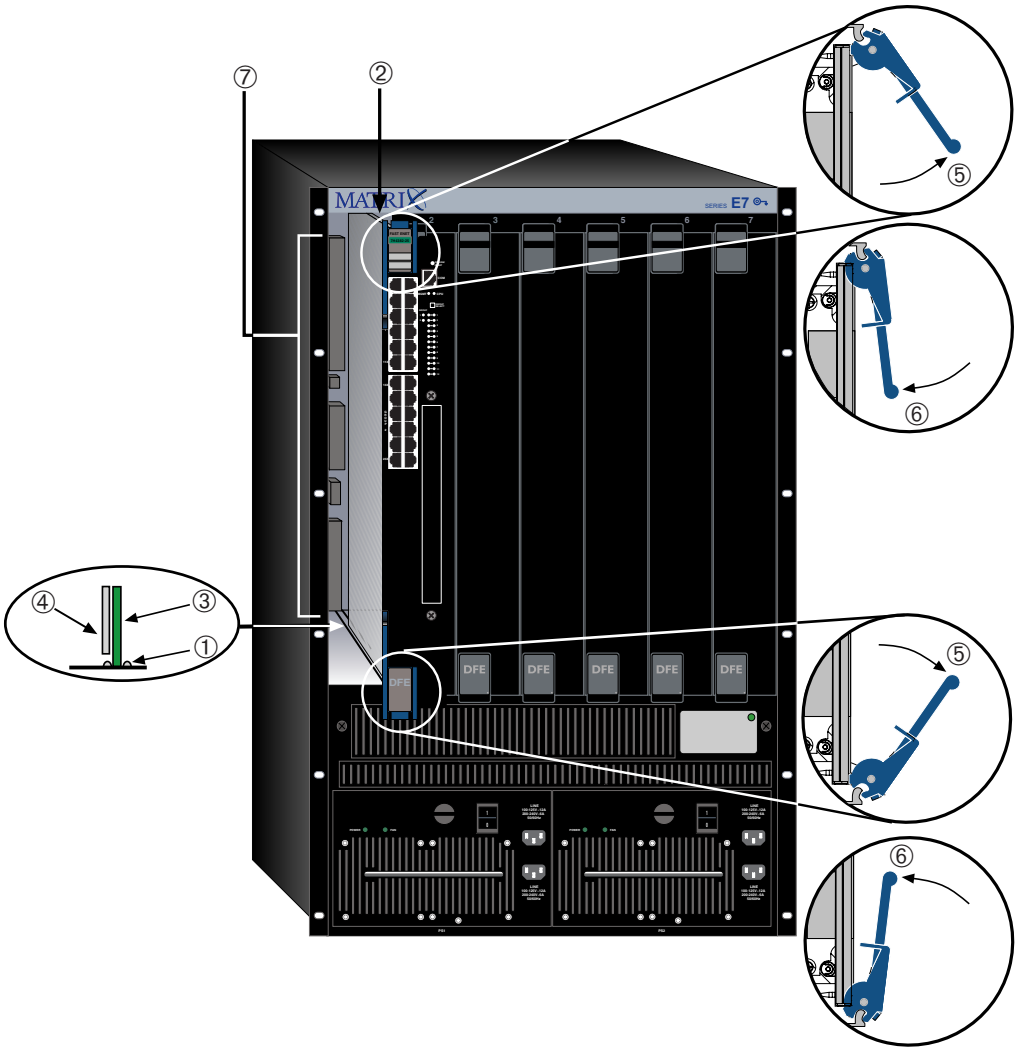
Caution: Due to the amount of force needed to properly seat the module connectors into the backplane connectors, it is best to apply force to the end of the levers to insert (or eject) the module. Otherwise, damage could result to the module and chassis.

3. Slide the module into the slot until you can engage the top and bottom locking levers with the chassis as shown in Figure 3-6.

Caution: In step 4, do not force the locking levers to the point that they touch the face of the front panel. Forcing the locking levers to this point could damage the module and chassis.

4. Refer to the Caution note above, then rotate the two levers into the closed position.
5. If the chassis in which the module is installed was powered down for the installation, turn the power supplies on. Check to see that the module CPU LED settles at solid green after a few minutes. If the LED does not turn solid green, refer to Chapter 4 for troubleshooting details.

Figure 3-6 Installing Module into an SS6000, Matrix E7 or N7 Chassis (Matrix E7 shown)



1 Card guides
2 Slot number 1 (Right-most slot is 7)
3 Module card
4 Metal back panel
5 Upper/lower locking tabs (in proper open position)
6 Upper/lower locking tab (in closed position)
7 Backplane connectors
- Top two connectors (power and FTM2)
- Bottom two connectors (power and FTM1) (no bottom connectors in Matrix N7 chassis)

Installing Module into Matrix N3 Chassis

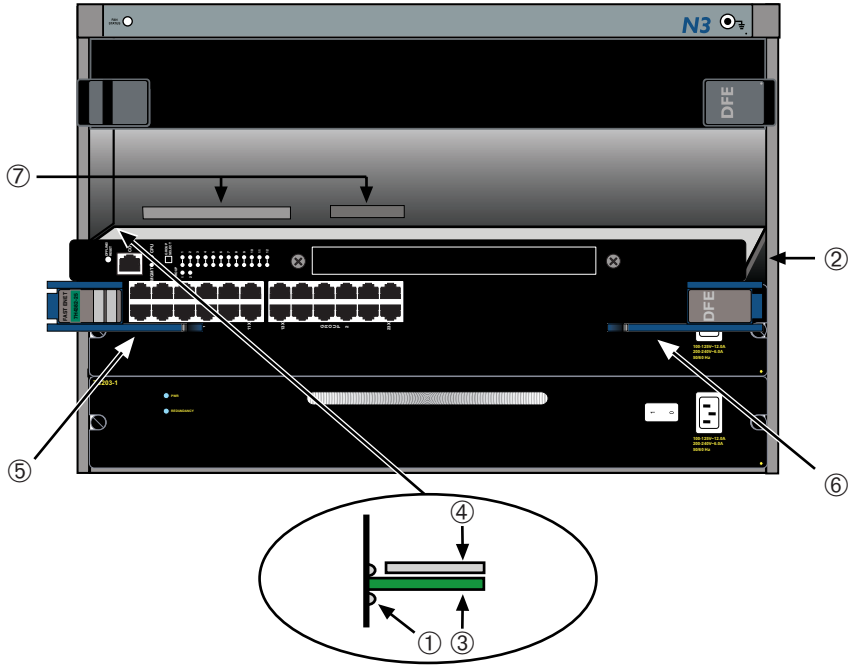
Caution: Failure to observe static safety precautions could cause damage to the DFE-Platinum module. Follow static safety handling rules and wear the antistatic wrist strap.

Do not cut the non-conductive bag to remove the DFE-Platinum module. Sharp objects contacting the board or components can cause damage.

To install a DFE-Platinum module into the Matrix N3 chassis, refer to Figure 3-7 and use the installation procedure described in "Installing Module into SmartSwitch 6000, Matrix E7 or Matrix N7 Chassis" on page 3-12. A DFE-Platinum module can be installed in any available chassis slot (1 through 3).

Caution: When setting the locking levers to the closed position, do not try to force the locking levers to the point that they touch the face of the front panel. Forcing the locking levers to this point could damage the module and chassis.

Figure 3-7 Installing Module into Matrix N3 Chassis



1 Card guides
2 Slot 1 (Top slot is slot 3.)
3 Module card
4 Metal back panel
5 Upper locking tab (shown in closed position)
6 Lower locking tab (shown in closed position)
7 FTM2 backplane connectors

Connecting to the Network

"Connecting UTP Cables to 7H4382-25" on page 3-16 provides the procedures for connecting unshielded twisted pair (UTP) segments from the network or other devices. For connections to Mini-GBIC ports on the 7G-6MGBIC, refer to "Connecting Fiber-Optic Cables to Mini-GBICs (applies to 7G-6MGBIC)" on page 3-20.

Note: If the DFE-Platinum module is being installed in a network using Link Aggregation, there are rules concerning the network cable and port configurations that must be followed for Link Aggregation to operate properly. Before connecting the cables, refer to the *Matrix DFE-Platinum Series Configuration Guide* for the configuration information. For details on how to obtain manuals, refer to the "Related Documents" in **About This Guide**.

Connecting UTP Cables to 7H4382-25

The fixed RJ45 front panel connections of the 7H4382-25 are 10/100 Mbps ports. The ports have internal crossovers, and also support automatic-polarity sensing when configured for automatic-negotiation.

If automatic-negotiation is not activated on a port, use a straight-through cable when connecting a workstation to the port. When connecting a networking device to the port, such as a bridge, repeater, or router, use a crossover cable.

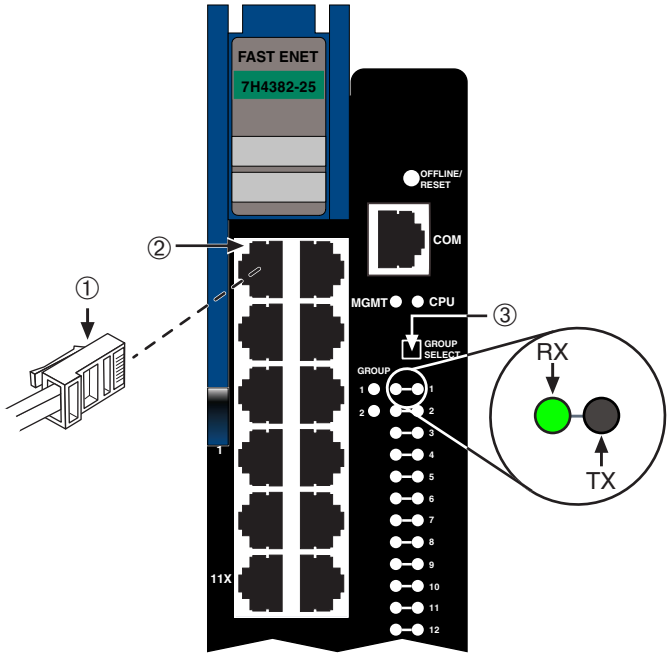
If a port is set for auto-negotiation, automatic-polarity sensing is also activated. Automatic-polarity sensing eliminates the need for a crossover cable, regardless if the connection is to another network device or a workstation.

Note: All RJ45 front panel ports on the 7H4382-25 support Category 5 Unshielded Twisted Pair (UTP) cabling with an impedance between 85 and 111 ohms. Category 3 cable may be used if the connection is going to be used only for 10 Mbps.

In this procedure, the 7H4382-25 is used as the example to connect a twisted pair segment to the module. Refer to Figure 3-8 and proceed as follows:

1. Ensure that the device connected to the other end of the segment is powered ON.
2. Connect the twisted pair segment to the module by inserting the RJ45 connector on the twisted pair segment into the appropriate RJ45 port connector.

Figure 3-8 Connecting a Twisted Pair Segment to the 7H4382-25



1 RJ45 connector **2** RJ45 port connector **3** GROUP SELECT button

3. Verify that a link exists by checking that the port RX (Receive) LED is ON (flashing amber, blinking green, or solid green). If the RX LED is OFF and the TX (Transmit) LED is not blinking amber, perform the following steps until it is on:

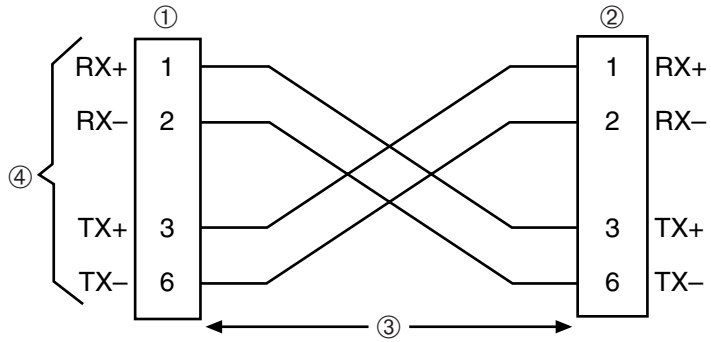
   a. To view the receive and transmit activity on a group of segments, press the GROUP SELECT button (see Figure 3-8) to step to the group of interest (Groups 1 through 4). Each time the GROUP SELECT button is pressed, the GROUP LED lights up in sequence, indicating which Group is selected. The receive and transmit activity for that group of segments is then indicated by the RX and TX LEDs for each segment.

   b. Verify that the cabling being used is Category 5 UTP with an impedance between 85 and 111 ohms. If the port is to operate at 100 Mbps, category 5 cabling must be used.

   c. Verify that the device at the other end of the twisted pair segment is on and properly connected to the segment.

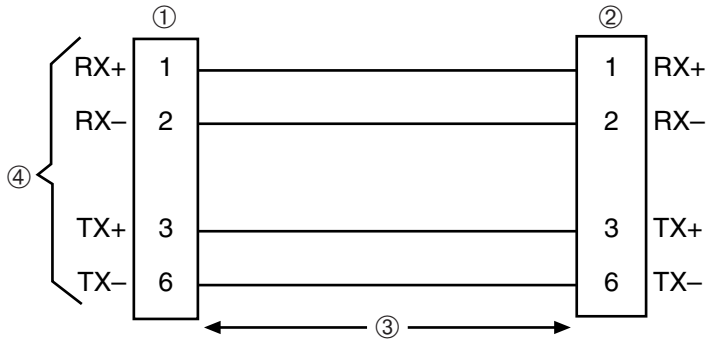
d. Verify that the RJ45 connectors on the twisted pair segment have the proper pinouts and check the cable for continuity. Typically, a crossover cable is used between hub devices. A straight-through cable is used to connect between switches or hub devices and an end user (computer). Refer to Figure 3-9 and Figure 3-10 for four-wire RJ45 connections. Refer to Figure 3-11 and Figure 3-12 for eight-wire RJ45 connections.

Figure 3-9 Crossover 4-Wire Cable RJ45 Pinouts, Connections Between Hub Devices



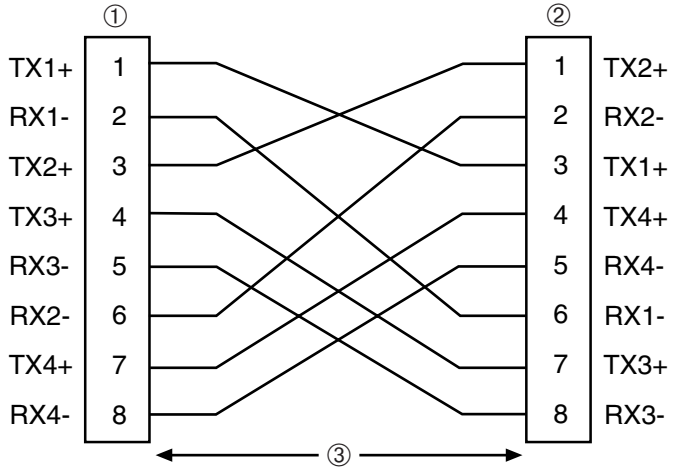
1 RJ45 device port
2 Other device port
3 RJ45-to-RJ45 crossover cable
4 RX+/RX- and TX+/TX- connections. These connections must share a common color pair.

Figure 3-10 Straight-Through 4-Wire Cable RJ45 Pinouts, Connections Between Switches and End-User Devices



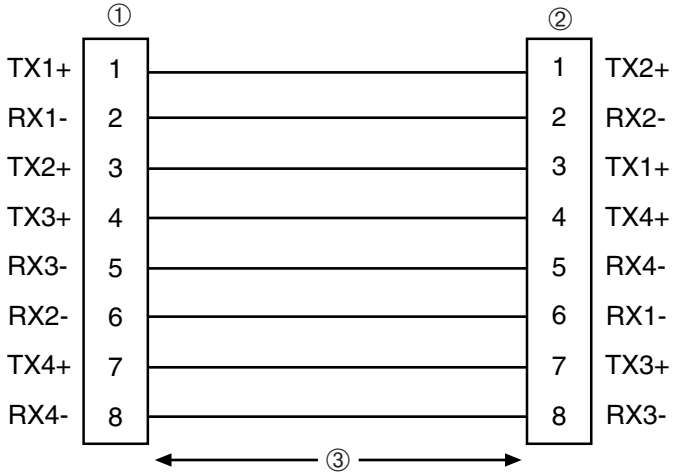
1 RJ45 device port
2 Other device port
3 RJ45-to-RJ45 straight-through cable
4 RX+/RX- and TX+/TX- connections. These connections must share a common color pair.

Figure 3-11 Eight-Wire Crossover Cable RJ45 Pinouts, Connections Between Hub Devices



1 RJ45 device port
2 Other device port
3 RJ45-to-RJ45 crossover cable

Figure 3-12 Eight-Wire Straight-Through Cable RJ45 Pinouts, Connections Between Switches and End-User Devices



1 RJ45 device port
2 Other device port
3 RJ45-to-RJ45 straight-through cable

e. Ensure that the twisted pair connection meets the dB loss and cable specifications outlined in the *Cabling Guide*. Refer to "Related Documents" in **About This Guide** for information on obtaining this document.

If a link is not established, contact Enterasys Networks. Refer to "Getting Help" on page 1-6 for details.

4. Repeat steps 1 through 3 above, until all connections have been made.

Connecting Fiber-Optic Cables to Mini-GBICs (applies to 7G-6MGBIC)

This section provides the procedure for connecting 1-Gigabit Ethernet fiber-optic segments from the network or other devices to Mini-GBIC MT-RJ or LC port connectors installed in the optional 7G-6MGBIC interface. An MT-RJ connector is shown in Figure 3-13 and an LC connector is shown in Figure 3-14.

Each fiber-optic link consists of two fiber-optic strands within the cable: Transmit (TX) and Receive (RX)

The transmit strand from an MT-RJ port on the DFE module interface connects to the receive port of a fiber-optic Gigabit Ethernet device at the other end of the segment. The receive strand connects to the transmit port of the fiber-optic Gigabit Ethernet device.

The following procedure describes how to connect an MT-RJ cable connector (Figure 3-13) to a Mini-GBIC port connector. This procedure also applies to an LC cable connector shown in Figure 3-14. Refer to Figure 3-13 as an example and proceed as follows:

1. Remove the protective covers (not shown) from the MT-RJ fiber-optic port on the Mini-GBIC and from the connectors on each end of the cable.

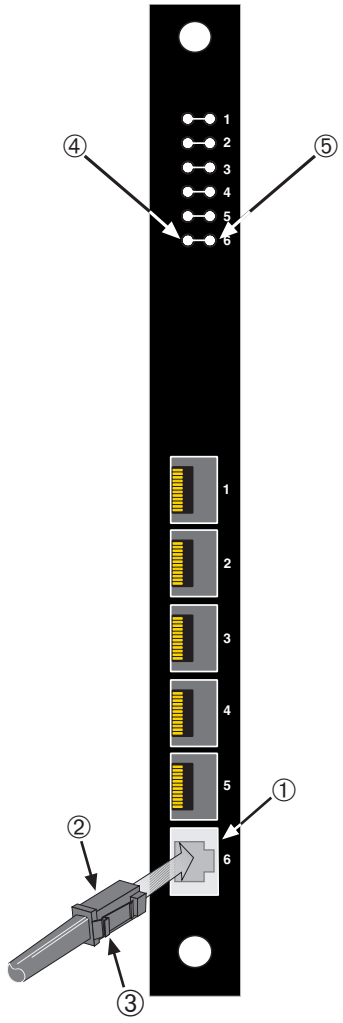
Note: Leave the protective covers in place when the connectors are not in use to prevent contamination.

Caution: Do not touch the ends of the fiber-optic strands, and do not let the ends come in contact with dust, dirt, or other contaminants. Contamination of cable ends causes problems in data transmissions. If the ends of the fiber-optic strands become contaminated, use a canned duster to blow the surfaces clean. A cleaning swab saturated with optical-grade isopropyl alcohol may also be used to clean the ends.

2. Insert the MT-RJ cable connector into the Mini-GBIC until it clicks into place.

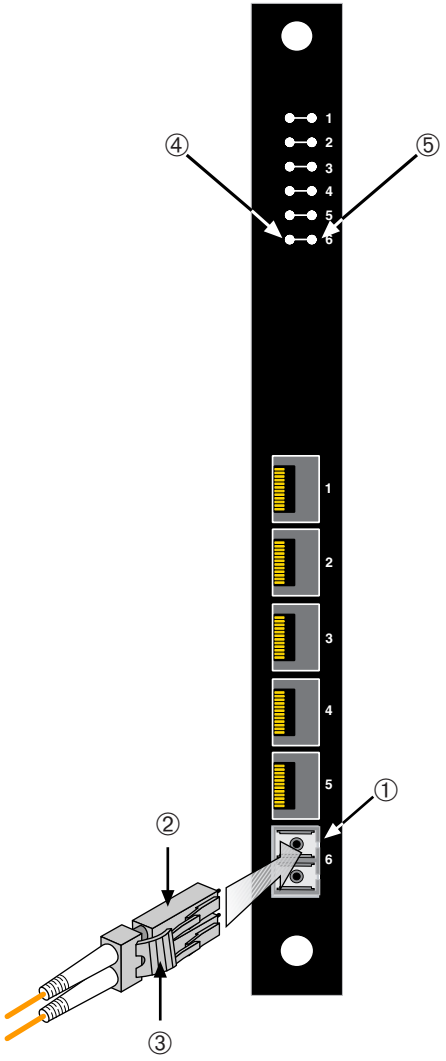
Note: To remove the MT-RJ cable connector, press on its release tab and pull it out of the Mini-GBIC connector.

Figure 3-13 Cable Connection to MT-RJ Fiber-Optic Connectors



1 Installed Mini-GBIC MT-RJ connector
2 MT-RJ cable connector
3 Release tab
4 Receive LED (RX)
5 Transmit LED (TX)

Figure 3-14 Cable Connection to LC Fiber-Optic Connectors



1 Installed Mini-GBIC LC connector
2 LC cable connector
3 Release tab
4 Receive LED (RX)
5 Transmit LED (TX)

3. Verify that a link exists by checking that the port RX LED is on (flashing amber, blinking green, or solid green). If the RX LED is off, perform the following steps until it is on:

   a. Verify that the device at the other end of the segment is ON and connected to the segment.

b. If there are separate fiber-optic connections on the other device, check the crossover of the cables. Swap the cable connections if necessary.

c. Check that the fiber-optic connection meets the dB loss and cable specifications outlined in the ***Cabling Guide*** for multimode fiber-optic cabling. To obtain this document, refer to "Related Documents" in **About This Guide**.

If a link has not been established, refer to Chapter 4 for LED troubleshooting details. If a problem persists, refer to "Getting Help" on page 1-6 for details on contacting Enterasys Networks for support.

4. Repeat steps 1 through 3, above, until all connections have been made.
5. Plug the other end of the cable into the appropriate port on the other device. Some cables may be terminated at the other end with two separate connectors, one for each fiber-optic strand. In this case, ensure that the transmit fiber-optic strand is connected to the receive port and the receive fiber-optic strand to the transmit port.

Connecting to COM Port for Local Management

This section describes how to install a UTP straight-through cable with RJ45 connectors and optional adapters to connect a PC, a VT series terminal, or a modem to an Enterasys Networks module to access Local Management. This section also provides the pinout assignments of the adapters.

What Is Needed

The following is a list of the user-supplied parts that may be needed depending on the connection:

- RJ45-to-DB9 female adapter
- UTP straight-through cable with RJ45 connectors
- RJ45-to-DB25 female adapter
- RJ45-to-DB25 male adapter

With a UTP straight-through cable with RJ45 connectors and RJ45-to-DB9 adapter, you can connect products equipped with an RJ45 COM port to an IBM or compatible PC running a VT series emulation software package.

With a UTP straight-through cable and RJ45-to-DB25 female adapter, you can connect products equipped with an RJ45 COM port to a VT series terminal or VT type terminals running emulation programs for the VT series.

With a UTP straight-through cable and an RJ45-to-DB25 male adapter, you can connect products equipped with an RJ45 COM port to a Hayes compatible modem that supports 9600 baud.

Connecting to an IBM PC or Compatible Device

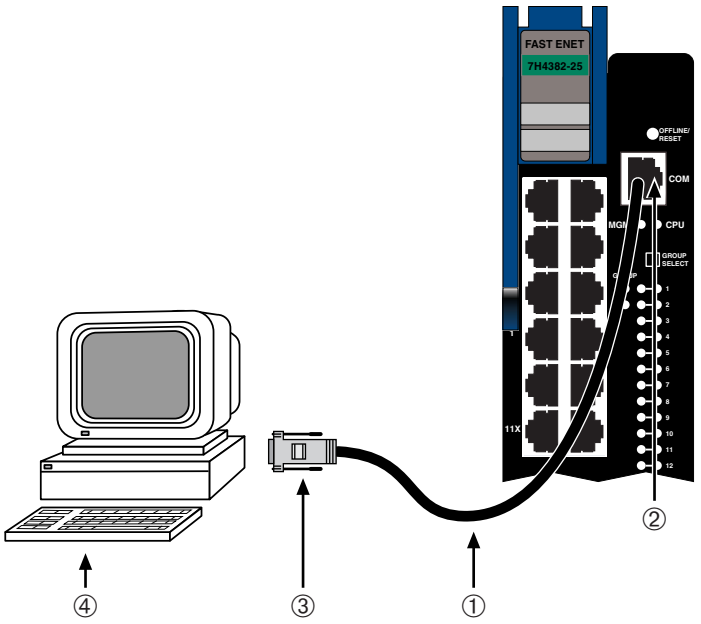
To connect an IBM PC or compatible device, running the VT terminal emulation, to an Enterasys Networks module COM port (Figure 3-15), proceed as follows:

1. Connect the RJ45 connector at one end of a UTP straight-through cable to the communications COM port on the Enterasys Networks module. (The COM port is also known as a Console port.)
2. Plug the RJ45 connector at the other end of the UTP straight-through cable into an RJ45-to-DB9 adapter.
3. Connect the RJ45-to-DB9 adapter to the communications port on the IBM PC.
4. Turn on the PC and configure your VT emulation package with the following parameters:

Parameter	Setting
Mode	7 Bit Control
Transmit	Transmit=9600
Bits Parity	8 Bits, No Parity
Stop Bit	1 Stop Bit

5. When these parameters are set, the Local Management password screen will display. Refer to the appropriate *Matrix DFE-Platinum Series Configuration Guide* for further information.

Figure 3-15 Connecting an IBM PC or Compatible



1 UTP straight-through cable with RJ45 connectors
2 RJ45-to-DB9 PC adapter
3 RJ45-to-DB9 PC adapter
4 IBM PC or compatible device

Connecting to a VT Series Terminal

To connect a VT Series terminal to an Enterasys Networks DFE-Platinum module COM port (Figure 3-16), use a UTP straight-through cable with RJ45 connectors and an RJ45-to-DB25 female adapter, and proceed as follows:

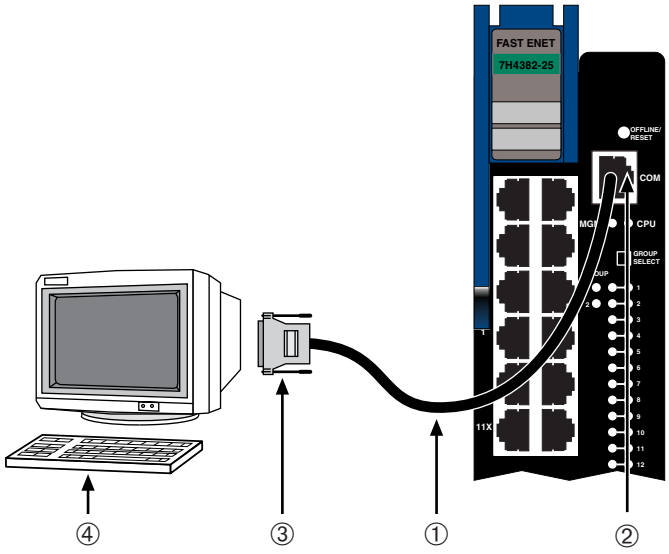
1. Connect the RJ45 connector at one end of the UTP straight-through cable to the COM port on the Enterasys Networks module.
2. Plug the RJ45 connector at the other end of the UTP straight-through cable into the RJ45-to-DB25 female adapter.
3. Connect the RJ45-to-DB25 adapter to the port labeled COMM on the VT terminal.

4. Turn on the terminal and access the Setup Directory. Set the following parameters on your terminal:

Parameter	Setting
Mode	7 Bit Control
Transmit	Transmit=9600
Bits Parity	8 Bits, No Parity
Stop Bit	1 Stop Bit

When these parameters are set, the Local Management password screen will display. Refer to the *Matrix DFE-Platinum Series Configuration Guide* for further information.

Figure 3-16 Connecting a VT Series Terminal



1 UTP straight-through cable with RJ45 connectors
2 RJ45 COM port
3 RJ45-to-DB25 VT adapter
4 VT series terminal

Connecting to a Modem

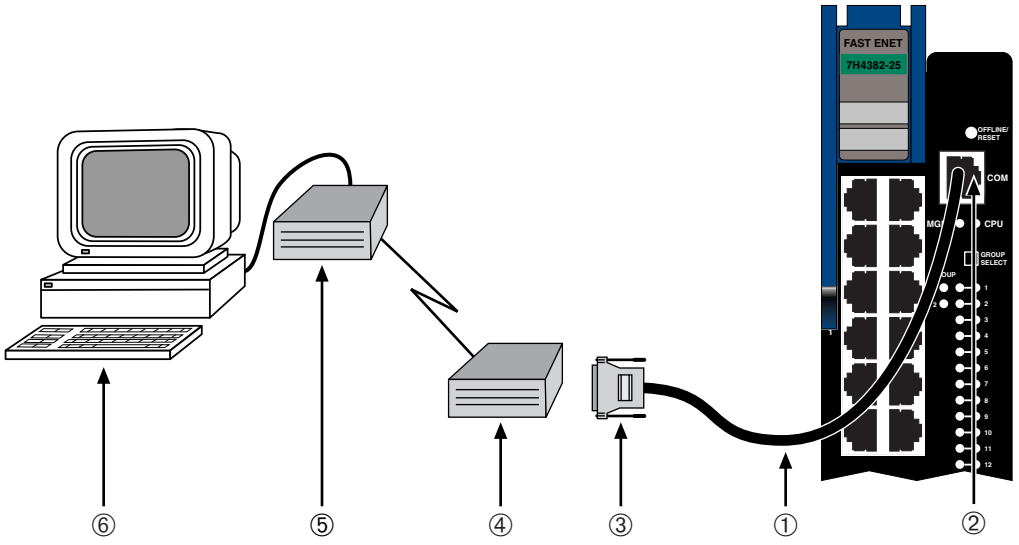
To connect a modem to an Enterasys Networks DFE-Platinum module COM port (Figure 3-17), use a UTP straight-through cable with RJ45 connectors and an RJ45-to-DB25 male adapter, and proceed as follows:

1. Connect the RJ45 connector at one end of the UTP straight-through cable to the COM port of the DFE module.
2. Plug the RJ45 connector at the other end of the UTP straight-through cable into the RJ45-to-DB25 modem adapter.
3. Connect the RJ45-to-DB25 adapter to the communications port on the modem.
4. Turn on the modem.
5. With a PC connected to a remote modem, you can configure the switch remotely. To accomplish this, you must configure your PC VT emulation package with the following parameters.

Parameter	Setting
Mode	7 Bit Control
Transmit	Transmit=9600
Bits Parity	8 Bits, No Parity
Stop Bit	1 Stop Bit

6. When these parameters are set, the Local Management password screen will display. Refer to the *Matrix DFE-Platinum Series Configuration Guide* for further information.

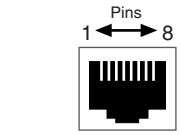
Figure 3-17 Connecting to a Modem



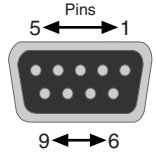
1 UTP straight-through cable with RJ45 connectors
2 RJ45 COM port
3 RJ45-to-DB25 modem adapter
4 Local modem
5 Remote modem
6 PC

Adapter Wiring and Signal Assignments

COM Port Adapter Wiring and Signal Diagram			
RJ45		**DB9**	
Pin	Conductor	Pin	Signal
1	Blue	2	Receive (RX)
4	Red	3	Transmit (TX)
5	Green	5	Ground (GRD)
2	Orange	7	Request to Send (RTS)
6	Yellow	8	Clear to Send (CTS)

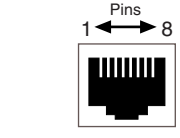


RJ45 Connector (Female)

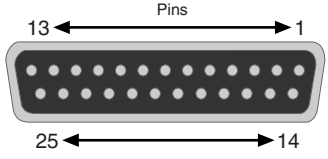


DB9 Connector (Female)

VT Series Port Adapter Wiring and Signal Diagram			
RJ45		**DB25**	
Pin	Conductor	Pin	Signal
4	Red	2	Transmit (TX)
1	Blue	3	Receive (RX)
6	Yellow	5	Clear to Send (CTS)
5	Green	7	Ground (GRD)
2	Orange	20	Data Terminal Ready

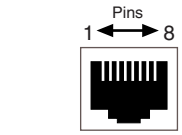


RJ45 Connector (Female)

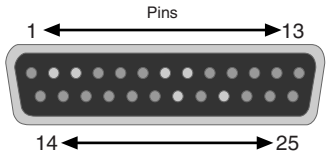


DB25 Connector (Female)

Modem Port Adapter Wiring and Signal Diagram			
RJ45		**DB25**	
Pin	Conductor	Pin	Signal
1	Blue	2	Transmit (TX)
2	Orange	8	Data Carrier Detect (DCD)
4	Red	3	Receive
5	Green	7	Ground (GRD)
6	Yellow	20	Data Terminal Ready (DTR)
8	Gray	22	Ring Indicator



RJ45 Connector (Female)



DB25 Connector (Male)

Completing the Installation

Completing the DFE-Platinum module installation depends on if the module is being installed in:

- a new DFE-Platinum module system (refer to "Completing the Installation" on page 3-30), or
- an established, operating DFE-Platinum module system (refer to "Completing the Installation of a DFE-Platinum Module in an Existing System" on page 3-32).

Completing the Installation of a New System

In a new system of DFE-Platinum modules, one of the installed DFE-Platinum modules will become the management module on chassis power up, and all DFE-Platinum modules will automatically be set to the factory default values. A complete list of the factory default values are provided in Chapter 3 of the *Matrix DFE-Platinum Series Configuration Guide*.

After installing all DFE-Platinum modules into the host chassis and making the connections to the network, proceed to the following First-Time Log-In Using a Console Port Connection procedure to access the module management startup screen from your PC, terminal, or modem connection.

First-Time Log-In Using a Console Port Connection

Note: This procedure applies only to initial log-in, and to logging in to a device not yet configured with administratively-supplied user and password settings.

By default, the Matrix DFE-Platinum Series device is configured with three user login accounts: **ro** for Read-Only access; **rw** for Read-Write access; and **admin** for super-user access to all modifiable parameters. The default password is set to blank (carriage return). For information on changing these default passwords, refer to Chapter 3 in the *Matrix DFE-Platinum Series Configuration Guide*.

Start the Command Line Interface (CLI) from the module's local console port as follows:

1. Connect a terminal to the local console port as described in "Connecting to COM Port for Local Management" on page 3-23. The startup screen, Figure 3-18, displays.
2. At the login prompt, enter one of the following default user names:
   - **ro** for Read-Only access,
   - **rw** for Read-Write access, or
   - **admin** for Super User access. (This access level allows Read-Write access to all modifiable parameters, including user accounts.)
3. Press ENTER.
4. The Password prompt displays. Leave this string blank and press ENTER. The module information and Matrix prompt displays as shown in Figure 3-18.

The DFE-Platinum module is now ready to be configured. For information about setting the IP address and configuring Telnet settings for remote access to DFE-Platinum management, refer to Chapter 3 in the *Matrix DFE-Platinum Series Configuration Guide*. The CLI commands enable you to initially set up and perform more involved management configurations.

The *Matrix DFE-Platinum Series Configuration Guide* is available online at:

http://www.enterasys.com/support/manuals

If you require assistance, contact Enterasys Networks using one of the methods described in "Getting Help" on page 1-6.

Figure 3-18 Matrix DFE Startup Screen Example (N7 Chassis)

```
login: admin
Password:


M A T R I X N7
Command Line Interface

Enterasys Networks, Inc.
50 Minuteman Rd.
Andover, MA 01810-1008 U.S.A.

Phone:  +1 978 684 1000
E-mail: support@enterasys.com
WWW:    http://www.enterasys.com

(c) Copyright Enterasys Networks, Inc. 2003

Chassis Serial Number:     xxxxxxxxxxx
Chassis Firmware Revision: xx.xx.xx

Matrix N7(su)->
```

Completing the Installation of a DFE-Platinum Module in an Existing System

In an established DFE-Platinum module system,

- a DFE-Platinum module is already established as the management module,
- the passwords have already been set for various users,
- the system IP address is set, and
- other system parameters have been set.

When you install a new DFE-Platinum module into a system with an existing configured user account, the current system settings in that account are already recognized by the new DFE-Platinum module and it will operate accordingly.

If you need to change any settings, you can connect a terminal to the local console port as described in "Connecting to COM Port for Local Management" on page 3-23 to access system management, or use a Telnet connection to access the DFE-Platinum module system management as described in Chapter 3 of the *Matrix DFE-Platinum Series Configuration Guide*.

Logging in with an Administratively-Configured User Account

If the device's default user account settings have been changed, proceed as follows:

1. At the login prompt, enter your administratively-assigned user name and press ENTER.
2. At the Password prompt, enter your password and press ENTER.

The notice of authorization and the Matrix prompt displays as shown back in Figure 3-18.

Note: Users with Read-Write (rw) and Read-Only access can use the **set password** command to change their own passwords. Administrators with Super User (su) access can use the **set system login** command to create and change user accounts, and the **set password** command to change any local account password. For information on the set password and set system login commands, refer to Chapter 3 in the *Matrix DFE-Platinum Series Configuration Guide*.

The DFE-Platinum module is now ready to be configured. For information about setting the IP address and configuring Telnet settings for remote access to DFE-Platinum management, refer to Chapter 3 in the *Matrix DFE-Platinum Series Configuration Guide*. The CLI commands enable you to initially set up and perform more involved management configurations.

The *Matrix DFE-Platinum Series Configuration Guide* is available online at:

http://www.enterasys.com/support/manuals

If you require assistance, contact Enterasys Networks using one of the methods described in "Getting Help" on page 1-6.

4

Troubleshooting

This chapter provides information concerning the following:

- "Using LANVIEW" on page 4-1
- "Troubleshooting Checklist" on page 4-4
- "Overview of DFE-Platinum Module Shutdown Procedure (Special Instructions)" on page 4-6
  - "Recommended Shutdown Procedure Using OFFLINE/RESET Switch" on page 4-7
  - "Last Resort Shutdown Procedure Using OFFLINE/RESET Switch" on page 4-8

Unless otherwise noted, the following information applies to all DFE-Platinum modules.

Using LANVIEW

The modules use a built-in visual diagnostic and status monitoring system called LANVIEW. The LANVIEW LEDs (Figure 4-1) allow quick observation of the network status to aid in diagnosing network problems.

About the Management (MGMT) LED

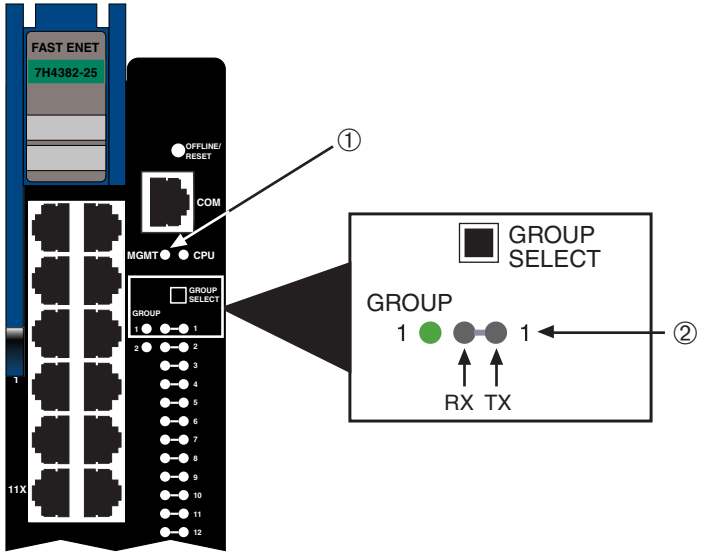
The MGMT LED (shown in Figure 4-1) indicates when the module is serving as the Management Module to control the management functions for all DFE-Platinum modules in the chassis. The Management Module handles all IP requests to the chassis IP address, such as PING, Telnet, SNMP, HTTP, etc. The Management Module also handles the CLI configuration sessions via the console port. So, when you plug into a DFE-Platinum module COM port to configure a DFE-Platinum module in the chassis, it is handled by the Management Module regardless of the DFE-Platinum module COM port that you use.

Viewing the Receive and Transmit Activity

On the 7H4382-25, you can view the receive and transmit activity on the RX and TX LEDs. However, only one group of 12 ports may be viewed at a time.

To view the receive and transmit activity on a group of attached segments, press the GROUP SELECT button (see Figure 4-1) to step to the group of interest (Groups 1 through 4). Each time the GROUP SELECT button is pressed, the GROUP LED lights up in sequence, indicating which group is selected. The receive and transmit activity for that group of segments is then indicated by the RX and TX LEDs for each port.

Figure 4-1 LANVIEW LEDs



1 MGMT LED **2** Group 1, Port 1 LEDs

Table 4-3 describes the LED indications and provides recommended actions as appropriate.

Note: The terms **flashing**, **blinking**, **solid**, and **Alternately** used in Table 4-3 indicate the following:

Flashing indicates an LED is flashing randomly.

Blinking indicates an LED is flashing at a steady rate (approximately 50% on, 50% off).

Solid indicates a steady LED light. No pulsing.

Alternately indicates an LED is flashing at a steady rate other than 50% on, 50% off.

Table 4-3 LANVIEW LEDs

LED	Color	State	Recommended Action
MGMT	None	**Off**. This module is NOT the Management Module.	None.
	Green	**Solid**. This module is the designated Management Module.	None.
	Amber	**Flashing**. This is a temporary indication that the module is saving data.	None.
CPU	None	Power off.	Ensure chassis has adequate power.
	Amber	**Blinking**. Module in process of booting.	None.
		Solid. Testing.	If the LED remains amber for several minutes, contact Enterasys Networks for technical support.
	Green	**Blinking**. Image starts running.	None.
		Solid. Functional.	None.
	Red	**Solid**. Processor in reset.	None.
	Green and Amber	**Blinking**. Indicates that the module is in the process of shutting down.	None. This state is activated when the OFFLINE/RESET switch is pressed for less than 1 second to a start the process of an orderly shutdown. While in this state, do not remove any DFE-Platinum module.
	Amber and off	**Alternately (67% on, 33% off)**. Indicates that a shutdown process has completed. This indication will remain for 60 seconds before automatically restarting.	While in this state, you have 60 seconds to safely remove the DFE-Platinum module from the chassis.

Table 4-3 LANVIEW LEDs (continued)

LED	Color	State	Recommended Action
RX (Receive)	None	**No link**. No activity. Port enabled or disabled.	None.
	Green	**Solid**. Link present, port enabled, no traffic is being received by the interface.	None.
	Amber	**Flashing**. Link present, port enabled, traffic is being received by the interface.	None.
RX	Red	**Blinking**. Indicates collisions. This indication is only supported on 10/100 ports.	Contact Enterasys Networks for technical support.
TX (Transmit)	None	Port enabled, but no activity.	If it is known that the port should be active and is not, contact Enterasys Networks for technical support.
	Green	**Flashing**. Indicates data transmission activity. Rate of flashing indicates the data rate.	None.
	Red	**Flashing**. Fault or Error (collision).	None, unless there is a high rate of activity. In this case, check for network configuration problems or a defective device.

Troubleshooting Checklist

If the module is not working properly, refer to Table 4-4 for a checklist of problems, possible causes, and recommended actions to resolve the problem.

Table 4-4 Troubleshooting Checklist

Problem	Possible Cause	Recommended Action
All LEDs are OFF.	Loss of power.	Ensure that the module was installed properly according to the installation instructions in Chapter 3, and that the host chassis is providing power.

Table 4-4 Troubleshooting Checklist (continued)

Problem	Possible Cause	Recommended Action
No Local Management Password screen.	Incorrect terminal setup.	Refer to the *Matrix DFE-Platinum Series Configuration Guide* for proper setup procedures.
	Improper console cable pinouts.	Refer to Appendix A for proper COM port pinouts.
	Corrupt firmware image, or hardware fault.	If possible, attempt to download the image to the module again. Refer to the section, "Setting the Mode Switches," on page B-1 for instructions to clear NVRAM.
Cannot navigate beyond Password screen.	Improper username/ password combination entered.	If the username/password combination has been forgotten, refer to the section, "Setting the Mode Switches," on page B-1 for instructions on how to set the mode switch to reset the username/ password combination to the default values.
Cannot contact the module through in-band management.	IP address not assigned.	Refer to the *Matrix DFE-Platinum Series Configuration Guide* for the IP address assignment procedure.
	Port is disabled.	Enable port. Refer to the *Matrix DFE-Platinum Series Configuration Guide* for instructions to enable/disable ports.
	Host Port policy and/or management VLAN is incorrectly configured, or not configured.	Verify that a management VLAN exists and that it is associated with the Host Port. Refer to the *Matrix DFE-Platinum Series Configuration Guide* for information about Host Port and management VLAN configuration.
	No link to device.	Verify that all network connections between the network management station and the module are valid and operating. If the problem continues, contact Enterasys Networks for technical support.
Port(s) goes into standby for no apparent reason.	Loop condition detected.	Verify that Spanning Tree is enabled. Refer to the *Matrix DFE-Platinum Series Configuration Guide* for the instructions to set the type of STA. Review the network design and delete unnecessary loops. If the problem continues, contact Enterasys Networks for technical support.

Table 4-4 Troubleshooting Checklist (continued)

Problem	Possible Cause	Recommended Action
User parameters (IP address, device and module name, etc.) were lost when the module power was cycled, the front panel OFFLINE/RESET switch was pressed.	Position of Mode switch (7), Persistent Data Reset, was changed sometime before either cycling power or pressing the OFFLINE/RESET switch, causing the user-entered parameters to reset to factory default settings. Clear Persistent Data that was set through Local Management. The module was moved either from slot-to-slot or from chassis-to-chassis.	Reenter the lost parameters as necessary. Refer to the *Matrix DFE-Platinum Series Configuration Guide* for the instructions to configure the device. If the problem continues, contact Enterasys Networks for technical support.

Overview of DFE-Platinum Module Shutdown Procedure (Special Instructions)

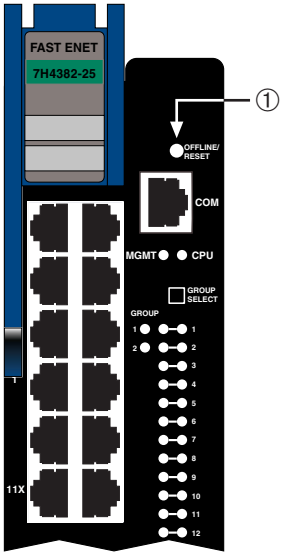
Caution: Do not remove a DFE-Platinum module from an operating chassis system before reading the following information and instructions.

DFE-Platinum modules installed in an SS6000, Matrix N3, Matrix N7, or Matrix E7 chassis are interdependent and operate under a single IP address as a single, distributed switch system (hardware, databases, and persistent storage). In this operating environment, the DFE-Platinum module must shut down in an orderly fashion to ensure that the other modules in the system and other devices on the network are notified of the impending change. The device(s) can then make intelligent decisions and stabilize the network before the change is made; thereby increasing network availability.

You can shut down a DFE-Platinum module in an operating system using the OFFLINE/RESET switch shown in Figure 4-3. There are two procedures to shut down a DFE-Platinum module.

- Recommended shutdown procedure (page 4-7)
- Last resort shutdown procedure (not recommended) (page 4-8)

Figure 4-3 OFFLINE/RESET Switch



1 OFFLINE/RESET switch

Recommended Shutdown Procedure Using OFFLINE/RESET Switch

Caution: Do not pull any DFE-Platinum module out of an operating chassis before it has completed its shutdown routine.

Before pulling a DFE-Platinum module out of a chassis,

press or tap on its OFFLINE/RESET switch for less than 1 second.

Its CPU LED changes from solid green to blinking between green and amber, indicating that the module is shutting down. At the end of the shutdown routine, the CPU LED changes to a 67%/33% sequence of amber/off, respectively, indicating the module is in a halt state. In this time it is safe to restart or remove the module from the chassis.

When a controlled shutdown is initiated from the OFFLINE/RESET switch, you have 60 seconds from the time the CPU starts alternately flashing amber/off until the device automatically restarts.

Note: The only safe time to pull a DFE-Platinum module out of the chassis is when the CPU LED is alternately flashing amber/off. Otherwise, system operation will be interrupted.

Last Resort Shutdown Procedure Using OFFLINE/RESET Switch

Caution: This method of shutting down a DFE-Platinum module is not recommended except as a last resort, because all processes currently running on the module will be interrupted resulting in loss of frames.

To reset a DFE-Platinum module without it performing an orderly shutdown routine,

press and hold the OFFLINE/RESET switch for approximately 6 seconds.

Pulling any DFE-Platinum module out of the chassis before it has been shut down is not recommended. The only safe time to pull a module out of the chassis is after the completion of a shutdown and the management LED is alternately flashing amber/off.

A

Specifications

This appendix provides information about the following:

- "DFE-Platinum Module Specifications" on page A-1
- "Ethernet Interface Module Specifications" on page A-2
- "Mini-GBIC Input/Output Specifications" on page A-3
- "Gigabit Ethernet Specifications" on page A-4
- "COM Port Pinout Assignments" on page A-7
- "Regulatory Compliance" on page A-7

Enterasys Networks reserves the right to change the specifications at any time without notice.

DFE-Platinum Module Specifications

Table A-1 provides the I/O ports, processors and memory, physical, and environmental module specifications for 7H4382-25.

Table A-1 7H4382-25 Specifications

Item	Specification
Ports	
Ports 1 through 24	Twenty-four, 10BASE-T/100BASE-TX compliant ports via RJ45 connectors.
Port Interface Option Slot	Supports one optional Ethernet interface module.

Table A-1 7H4382-25 Specifications (continued)

Item	Specification
Processors/Memory	
Processor	MPC750CX, 400 MHz processor
Dynamic Random Access Memory (DRAM)	128 MB
FLASH Memory	32 MB
Physical	
Dimensions	46.43 H x 6.05 W x 29.51 D (cm) 18.28 H x 2.38 W x 11.62 D (in.)
Approximate Weight	Gross: 5.54 kg (12.0 lb.) (shipping carton containing one module) Net: 4.10 kg (9.0 lb.) (one module without packaging)
Predicted hours for Mean Time Between Failures (MTBF)	For the MTBF hours for these products, refer to the MTBF web site at http://www.enterasys.com/support/mtbf/
Environmental	
Operating Temperature	5°C to 40°C (41°F to 104°F)
Storage Temperature	-30°C to 73°C (-22°F to 164°F)
Operating Relative Humidity	5% to 90% (non-condensing)

Ethernet Interface Module Specifications

At the time of the printing of this manual, two interface modules (7G-6MGBIC and 7G-6MGBIC-A) are available from Enterasys Networks. Refer to Table A-2 for the 7G-6MGBIC and 7G-6MGBIC-A specifications.

Table A-2 7G-6MGBIC/7G-6MGBIC-A Port/Environmental Specifications

Item	Specification
Port slots 1 through 6	Supports up to six optional 1000BASE-SX, 1000BASE-LX, and 1000BASE-T compliant Mini-GBICs. Refer to "Mini-GBIC Input/ Output Specifications" (page A-3) for the supported Mini-GBICs.

Table A-2 7G-6MGBIC/7G-6MGBIC-A Port/Environmental Specifications (cont.)

Item	Specification
Physical	
Dimensions	4.34 H x 21.97 W x 18.85 D (cm) 1.71 H x 8.65 W x 7.42 D (in.)
Approximate Weight	Net: 0.68 kg (1.5 lb) (one module without packaging)
MTBF (calculated hours)	575,333.00
Environmental	
Operating Temperature	5°C to 40°C (41°F to 104°F)
Storage Temperature	-30°C to 73°C (-22°F to 164°F)
Operating Relative Humidity	5% to 90% (non-condensing)

Mini-GBIC Input/Output Specifications

The Mini-Gigabit Ethernet Card (Mini-GBIC) port interface slots can support 1-Gbps fiber-optic and copper connections as described in Table A-3. The optional Mini-GBICs are hot swappable.

Table A-3 Mini-GBIC Input/Output Port Specifications

Item	Specification
MGBIC-LC01	Provides one LC fiber-optic multimode port that is compliant with the 1000BASE-SX standard LC connector.
MGBIC-LC03	Provides one LC fiber-optic multimode port that is compliant with the 1000BASE-SX standard LC duplex style connector.
MGBIC-LC09	Provides one LC fiber-optic single-mode port that is compliant with the 1000BASE-LX standard LC connector.
MGBIC-MT01	Provides one MT-RJ fiber-optic multimode port that is compliant with the 1000BASE-SX standard MT-RJ connector.
MGBIC-08	Provides one LC fiber-optic single-mode port that is compliant with the 1000BASE-ELX standard LC connector.
MGBIC-02	Provides one RJ45 copper connection that is compliant with the 1000BASE-T standard RJ45 connector.

Gigabit Ethernet Specifications

The following specifications for the Mini-GBICs (shown in Table A-4 through Table A-12) meet or exceed the IEEE 802.3z-1998 standard.

MGBIC-LC01/MGBIC-MT01 Specifications (1000BASE-SX)

Table A-4 MGBIC-LC01 / MGBIC-MT01 Optical Specifications

Item	62.5 µm MMF	50 µm MMF
Transmit Power (minimum)	-9.5 dBm	-9.5 dBm
Receive Sensitivity	-17 dBm	-17 dBm
Link Power Budget	7.5 dBm	7.5 dBm

Table A-5 MGBIC-LC01 / MGBIC-MT01 Operating Range

Item	Modal Bandwidth @ 850 nm	Range
62.5 µm MMF	160 MHz/km	2-220 Meters
62.5 µm MMF	200 MHz/km	2-275 Meters
50 µm MMF	400 MHz/km	2-500 Meters
50 µm MMF	500 MHz/km	2-550 Meters

MGBIC-LC03 Specifications (1000BASE-SX)

Table A-6 MGBIC-LC03 Optical Specifications

Item	62.5/125 µm MMF	50/125 µm MMF
Transmit Power (minimum)	-9.5 dBm	-9.5 dBm
Transmit Power (maximum)	-3 dBm	-3 dBm
Receive Sensitivity	-20 dBm	-20 dBm
Link Power Budget[1] (Multimode Only)	10.5 dBm	10.5 dBm

1. The maximum drive distance (up to 2 km) depends on the quality of the installed multimode fiber-optic cable segment. Use the Link Power Budget to calculate the maximum cable length of the attached segment. The Link Power Budget must not exceed those specified in this table. The MGBIC-LC03 input power must not exceed -3 dBm. Otherwise, saturation could occur.

Table A-7 MGBIC-LC03 Operating Range

Item	Modal Bandwidth @ 1310 nm	Range
62.5 µm MMF	160 MHz/km	2,000 Meters
50 µm MMF	400 MHz/km	2,000 Meters

MGBIC-LC09 Specifications (1000BASE-LX)

Table A-8 MGBIC-LC09 Optical Specifications

Item	62.5 µm MMF	50 µm MMF	10 µm MMF
Transmit Power (minimum)	-11.5 dBm	-11.5 dBm	-9.5 dBm
Receive Sensitivity	-20 dBm	-20 dBm	-20 dBm
Link Power Budget	8.5 dBm	8.5 dBm	10.5 dBm

Table A-9 MGBIC-LC09 Operating Range

Item	Modal Bandwidth @ 1300 nm	Range
62.5 µm MMF	500 MHz/km	2-550 Meters
50 µm MMF	400 MHz/km	2-550 Meters
50 µm MMF	500 MHz/km	2-550 Meters
10 µm SMF	N/A	2-10,000 Meters

MGBIC-08 Specifications (1000BASE-ELX)

Table A-10 MGBIC-08 Optical Specifications

Item			
Transmit Power (minimum)	-0 dBm, min.	+2 dBm, typical	+5 dBm, max.
Receive Sensitivity	-24 dBm, min.	-26 dBm, typical	
Maximum Input Power	-3 dBm		
Link Power Budget[1] (Full Duplex Only)	23 dB	28dB, typical	

1. The maximum drive distance (up to 70 km) depends on the quality of the installed single-mode fiber-optic cable segment. Use the Link Power Budget to calculate the maximum cable length of the attached segment. The Link Power Budget must not exceed those specified in this table. The MGBIC-08 input power must not exceed -3 dBm. Otherwise, saturation could occur.

Table A-11 MGBIC-08 Operating Range

Item	1550 nm	Range
9 or 10 µm SMF	N/A	70,000 Meters

MGBIC-02 Specifications (1000BASE-T)

Table A-12 MGBIC-02 / Specifications

Item	Specification
Supported Cable	
Type:	Copper, Category 5 UTP
Maximum Length	Up to 100 meters
Connector	RJ45
Data Rate	1 Gbps, IEEE 802.3:2000 compatible 1000BASE-T operation only Automatic crossover detection
TX Output impedance	100 ohms, typical at all frequencies between 1 MHz and 125 MHz
RX Input impedance	100 ohms, typical at all frequencies between 1 MHz and 125 Hz

COM Port Pinout Assignments

The COM port is a serial communications port for local access to Local Management. Refer to Table A-13 for the COM port pin assignments.

Table A-13 COM Port Pin Assignments

Pin	Signal Name	Input/Output
1	Transmit Data (XMT)	Output
2	Clear to Send (CTS)	Input
3	Data Set Ready (DSR)	Input
4	Receive Data (RCV)	Input
5	Signal Ground (GND)	NA
6	Request to Send (RTS)	Output
7	Data Terminal Ready (DTR)	Output
8	Data Carrier Detect (DCD)	Input

Regulatory Compliance

The 7H4382-25 meets the safety and electromagnetic compatibility (EMC) requirements listed in Table A-14:

Table A-14 Compliance Standards

Regulatory Compliance	Standards
Safety	UL 60950, CSA C22.2 No. 60950, 73/23/EEC, EN 60950, and IEC 60950. The modules that support laser connections also meet the EN 60825 and 21 CFR 1040.10 standards.
Electromagnetic Compatibility (EMC)	FCC Part 15, CSA C108.8, 89/336/EEC, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, AS/NZS CISPR 22, and VCCI V-3.

B

Mode Switch Bank Settings and Optional Installations

This appendix covers the following items:

- "Required Tools" on page B-1
- "Setting the Mode Switches" on page B-1
- "Memory Locations and Replacement Procedures" on page B-3

Required Tools

Use the following tools to perform the procedures provided in this appendix:

- Antistatic wrist strap
- Phillips screwdriver

Caution: An antistatic wrist strap is required to perform the procedures in this appendix. Use the antistatic wrist strap when performing any of the procedures in this appendix to minimize ESD damage to the devices involved.

Setting the Mode Switches

Caution: Read the appropriate sections to be fully aware of the consequences when changing switch settings.

Only qualified personnel should change switch settings.

Figure B-1 shows the location of the mode switches and the switch settings for normal operation. These switches are set at the factory to the off position and rarely need to be changed.

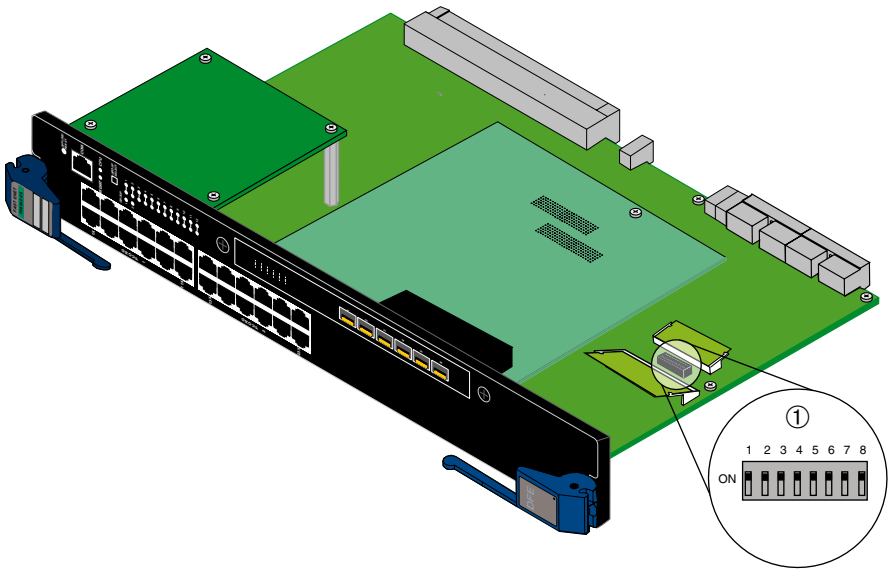
Switch definitions and positions are as follows:

- Switches 1 through 6 – For Enterasys Networks use only.

- Switch 7 – Clear Persistent Data. Changing the position of this switch clears Persistent Data on the next power-up of the module. All user-entered parameters, such as the IP address, module names, etc., are reset to the factory default settings. Once the module resets, you can either use the factory default settings or reenter your own parameters.
- Switch 8 – Clear Admin Password. Changing the position of this switch clears the admin password, and restores the factory default password on the next power-up of the module. Once the module resets, you can either use the factory default settings or reenter your own password.

Note: Do not change the position of Switch 8 unless it is necessary to reset the admin password to its factory default setting.

Figure B-1 Mode Switch Location on 7H4382-25



1 Mode switch bank

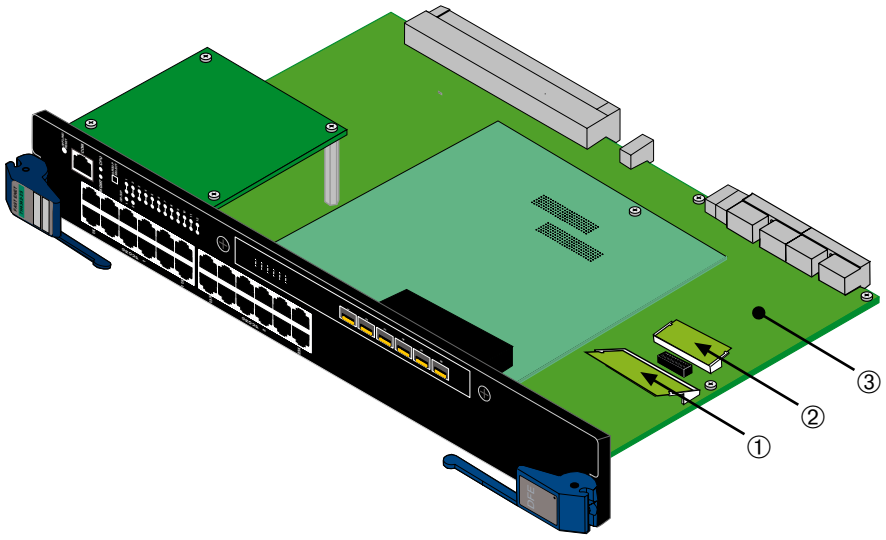
Memory Locations and Replacement Procedures

In the event that the Dual in Line Memory Module (DIMM) or DRAM Single In-line Memory Module (SIMM) (FLASH memory) needs to be replaced, the following sections describe how to access, locate and replace these memory modules. If you have questions concerning the replacement of either memory module, refer to the section, "Getting Help," on page 1-6 for details on how to contact Enterasys Networks.

Location of DIMM and DRAM SIMM Memory Modules

Figure B-2 shows the locations of the DIMM and DRAM SIMM on the main board.

Figure B-2 DIMM and DRAM SIMM Locations



1 DIMM **2** DRAM SIMM **3** Main PC board

DIMM Replacement Procedure

Caution: Observe all antistatic precautions when handling sensitive electronic equipment.

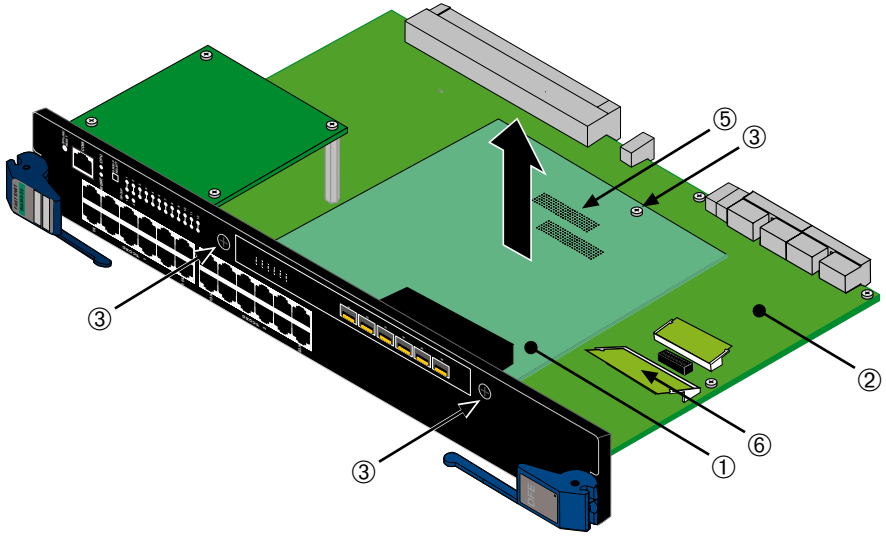
To remove and replace the DIMM on the 7H4382-25, refer to Figure B-3 and Figure B-4 respectively, and proceed as follows:

Removing the DIMM

Note: Prior to removing the DIMM in a 7H4382-25, you must remove the Ethernet interface module to gain access to the DIMM memory and connector.

1. If there is an optional interface module installed on the main board of the 7H4382-25, proceed to step 1a. Otherwise proceed to step 2.
   a. Remove and save the three screws attaching the Ethernet interface module to the front panel and to the standoff on the main PC board.
   b. Lift the interface module straight up and off the two module connectors on the main PC board. For instructions to reinstall the interface module, refer to "Installing Optional Ethernet Interface Module" on page 3-2.

Figure B-3 Ethernet Interface Removal and DIMM Connector Location



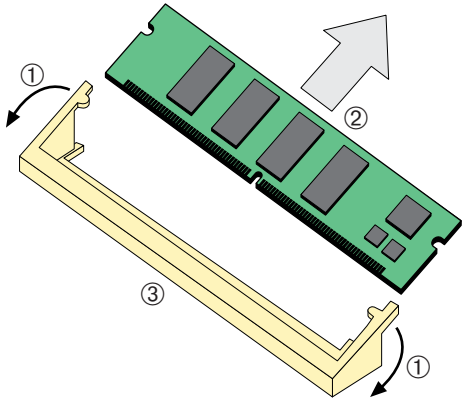
1 Ethernet interface module
2 Main PC board
3 Screws (3)
4 Module front panel
5 Module connectors on main board
6 DIMM memory module

2. Refer to Figure B-4. Push the connector arms away from the memory module to release it from the connector fingers.

Note: The ejector arms on this connector are not spring loaded, so they will remain in the open position until manually closed.

3. Remove the module from the connector.

Figure B-4 Removing the Existing DIMM from 7H4382-25



1 Connector arms	**2** Memory module	**3** Connector

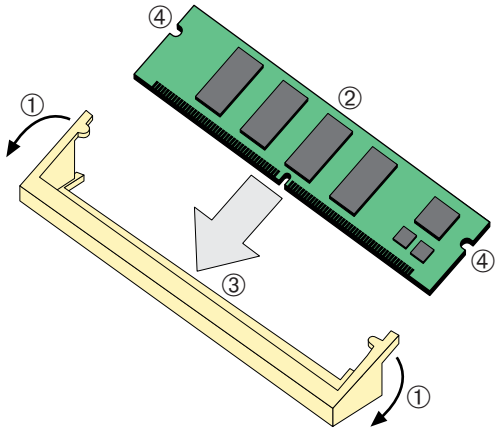
Installing the DIMM

Caution: Observe all antistatic precautions when handling sensitive electronic equipment.

To install the memory module, refer to Figure B-5 and proceed as follows:

1. With the connector arms set in the open position, insert the DIMM between the connector fingers and push the DIMM into the connector until the tabs on the two connector arms pull in towards the DIMM alignment notches.
2. Push the DIMM further into the connector until the two DIMM alignment notches and the tabs on the two connector arms lock the DIMM into place.

Figure B-5 Installing the DIMM on 7H4382-25



1 Connector arms
2 DIMM memory module
3 Connector fingers
4 DIMM alignment notches (2)

DRAM SIMM Replacement Procedure

In the event that the DRAM Single In-line Memory Module (SIMM) needs to be replaced, the following sections explain how to remove and install the SIMM. If you have questions concerning the replacement of the SIMM, refer to the section, "Getting Help," on page 1-6 for details on how to contact Enterasys Networks.

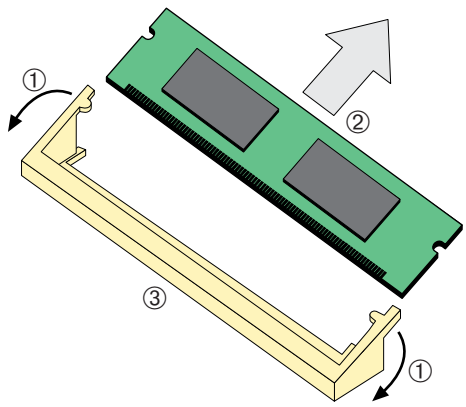
Removing the DRAM SIMM

Caution: Observe all antistatic precautions when handling sensitive electronic equipment.

To remove the existing DRAM SIMM, proceed as follows:

1. Locate the DRAM SIMM connector on the main PC board. Refer back to Figure B-2 for the DRAM SIMM location on the 7H4382-25.
2. Push the connector arms away from the DRAM SIMM, as shown in Figure B-6, and simultaneously lift the DRAM SIMM enough to release it from the connector fingers.

Figure B-6 Removing the Existing DRAM SIMM



1 Connector arms **2** DRAM SIMM **3** Connector fingers

3. Rotate the DRAM SIMM upwards, then remove it from the connector fingers.

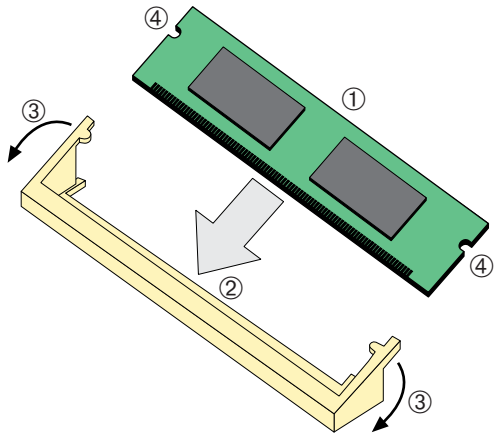
Installing the DRAM SIMM

Caution: Observe all antistatic precautions when handling sensitive electronic equipment.

To install a DRAM SIMM, refer to Figure B-7 and proceed as follows:

1. Insert the DRAM SIMM down between the connector fingers.
2. Pivot the DRAM SIMM downward so the tabs on the connector arms align with the two DRAM SIMM alignment notches. With the two connector arms spread outward, push the DRAM SIMM down between the connector arms. Then release the two connector arms to lock the DRAM SIMM into place.

Figure B-7 Installing the DRAM SIMM



1 DRAM SIMM
2 Connector fingers
3 Connector arms
4 SIMM alignment notches (2)

Index

Numerics

1000BASE-SX/LX network connections
  requirements for 2-3
1000BASE-T
  requirements 2-3
100BASE-TX
  requirements 2-3
10BASE-T
  connection 3-16
  requirements 2-2
7G-6MGBIC 3-20
  installation of 3-3
7H4382-25
  introduction to 1-2

C

Cable
  Fiber Budget A-3
Cable connections
  7G-6MGBIC 3-20
  7H4382-25 3-16
  fiber optic 3-20
Cable specifications
  1000BASE-SX/LX network 2-3
  1000BASE-T network 2-3
  100BASE-TX network 2-3
CLI command
  introduction to 1-5
COM port connections
  what is needed 3-23
Connecting to the network 3-16
Connectivity
  DFE-Platinum module and Ethernet interface module 1-5
Console port
  pinout assignments A-7
Conventions
  list of document xv
CRM
  introduction to 1-1

D

DFE-Platinum modules and Interface Option
  introduction to 1-2
DFE-Platinum series modules
  overview of capabilities 1-1
  specifications for A-1
DIMM
  replacement procedures for B-3
Document conventions
  list of xv

E

Electromagnetic Compatibility (EMC)
    requirements A-7
ERP
  introduction to 1-2
Ethernet Interface Option
  introduction to 1-4

F

Fiber budget A-3
FTM bridge function
  introduction to 2-2

G

Getting help 1-6
GROUP SELECT button
  use of the 4-1
Guide
  how to use xiv

I

Installation
  connecting to the Network 3-16
  module into Matrix E7 or N7 chassis 3-12
  module into Matrix N3 chassis 3-15
  optional Ethernet interface module 3-2
  optional Mini-GBIC 3-5

L

LANVIEW Diagnostic LEDs
  introduction to 1-6
  use of 4-1
Local Management
  COM port connections 3-23
  introduction to 1-5
Login
  administratively configured 3-33

M

Management
  use of 1-5
Management (MGMT) LED
  function of 4-1

Matrix E7 or N7 chassis
module installation into 3-12
Matrix N3 chassis
module installation into 3-15
Memory
replacement of DRAM SIMM B-7
Memory locations
DIMM and SIMM B-3
MGBIC-08
specifications for A-6
Mini-GBIC
installation of 3-5
removal of 3-7
specifications for A-3
Mode Switch
setting of B-1
Module coverplate
removal of 3-3
Module features 1-2

N

Network
connecting to 3-16
Network Requirements
list of 2-1
Notices
General ii

O

OFFLINE/RESET switch 4-7
Optional Ethernet interface module
installation of 3-2

P

Pinout assignments
console port A-7
Pinouts
crossover 3-18, 3-19
straight-through 3-18, 3-19
Ports
7G-6MGBIC 1-Gigabit Ethernet 1-4

R

Receive LEDs
viewing of 4-1
Regulatory Compliance A-7
Related manuals
obtaining xiv
Required Tools B-1
RESET button. *See* OFFLINE/RESET switch

S

Safety requirements A-7
SIMMs
installing DRAM B-8
location B-3
Specifications A-1
7G-6MGBIC A-2
DFE-Platinum series module A-1
Mini-GBICs A-3
Specifications, MGBIC-08 A-6
Specifications, MGBIC-LC01
operating range A-4
optical A-4, A-6
Specifications, MGBIC-LC09
operating range A-5, A-6
optical A-5, A-6
Specifications, MGBIC-MT01
operating range A-4
optical A-4
Standards compatibility 1-5

T

Technical support
contacting Enterasys for 1-6
Transmit LEDs
viewing of 4-1
Troubleshooting 4-1
checklist for 4-4

U

Unpacking the module 3-2

V

Viewing Receive and Transmit Activity
instructions for 4-1

W

WebView
introduction to 1-5